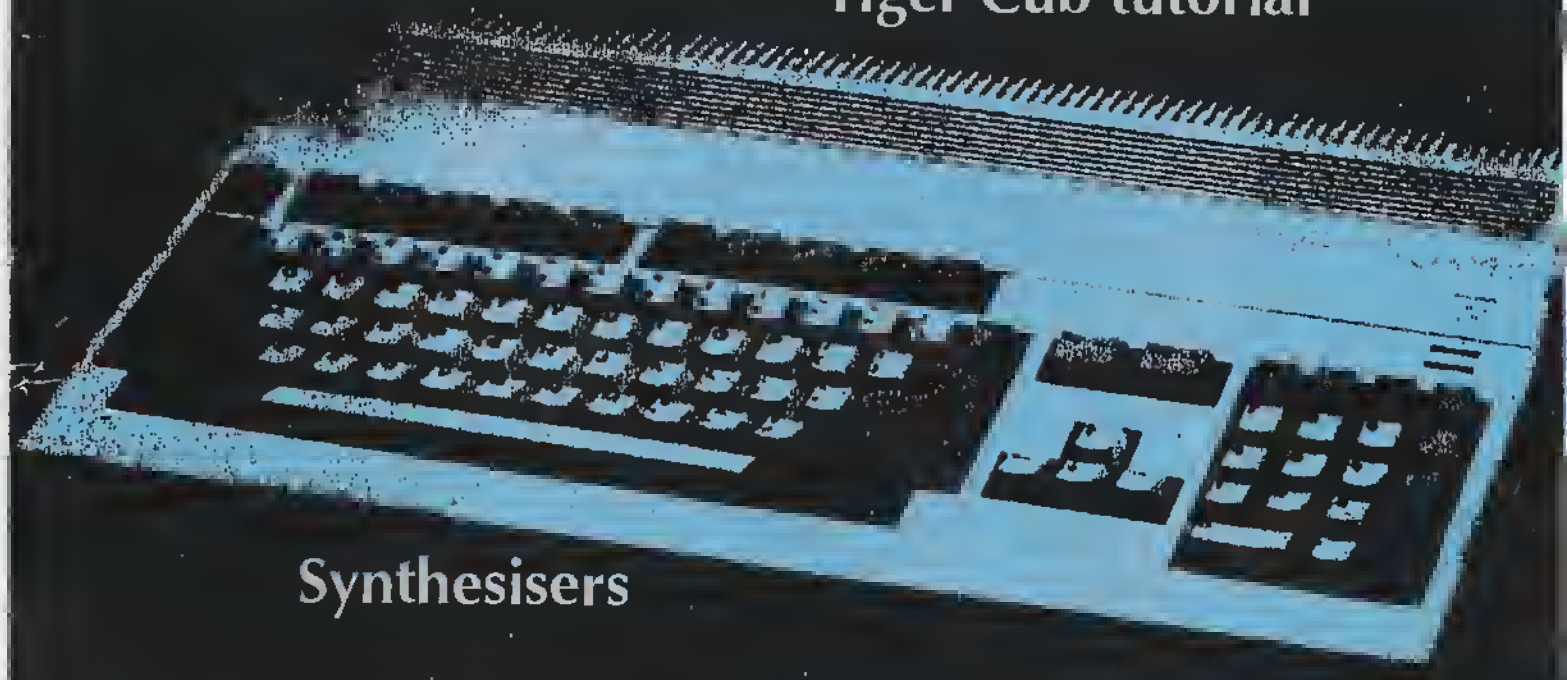
November Vol 7 no 11 $3.50

The Australian COMMODORE and AMIGA REVIEW

Pagefox: DTP for the C64

Handyscanner 64

Tiger Cub tutorial



Synthesisers

Tiger Cub & C64 column

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The Australian COMMODORE and AMIGA REVIEW

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Australian Commodore Review: 21 Darley Road Randwick, NSW 2031 Phone: (02) 398 5111
Published by: Saturday Magazine Pty Ltd.
Editor: Andrew Farrell
Entertainment Section Editor: Phil Campbell
Advertising: Ken Longshaw (02) 398 5111 or (02) 817 2509
Production: Brenda Powell
Layout: Andrew Dunstall
Subscriptions & back Issues: Darrien Perry (02) 398 5111
Distribution: NETWORK Distribution
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VOL. 7
NO. 11
NOVEMBER
1990

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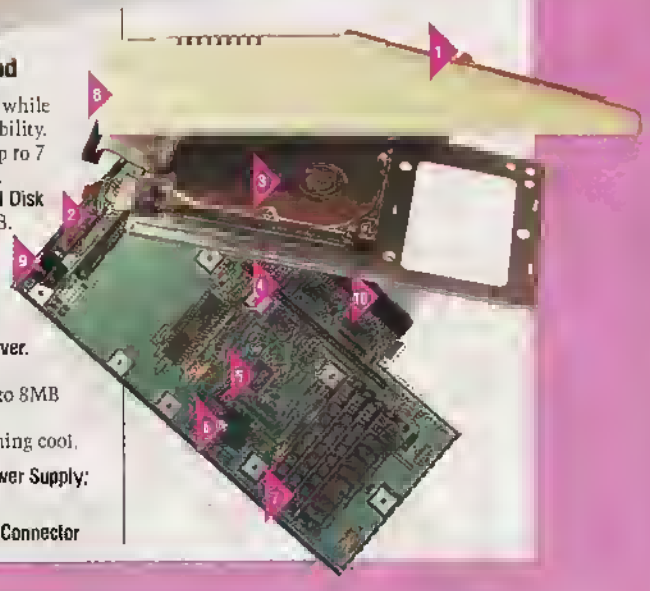

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Editorial

By now you've probably seen Commodore's latest advertising campaign designed, according to the creators, to make the Amiga appeal to both parents and the teenage majority who use the machine most. It was great to see animation by some of Australia's leading Amiga artists, including Andre Alexander, David Boddy, Wal van Heckeren and numerous snippets from overseas work, included in the commercial.

The result is a high energy action packed thirty seconds which manages to capture much of the spirit of Amiga in so much as it demonstrates the amazing graphics very well. How well this sells computers over the next two critical months remains to be seen. Last year Commodore sold out of Amiga 500's. In theory, the more Amiga's out there, the better support for the machine will be in the future.

In C64 land, sales have just enjoyed a major boost, with a large number being imported into China (see Ram Rumbles for details). Will Commodore arrange development of special Chinese software? We shall have to wait and see. With budgets tight in this time of economic moderation, things will be moving at a different pace in the marketing world.

Of course, at the same time the Amiga may well enjoy new opportunities as a true cost cutting device. As more people decide to stay home instead of paying meal and travel costs whilst on expensive outings, home computing may well enjoy a new surge of interest. Computing on a budget will feature in next month's *Commodore Review* - so don't miss that one.

One of the saddest things is seeing people buying MS-DOS machines for home use, expecting the same sort of graphics and sound they see and hear pumping out of an Amiga. How disappointed they would be if only they knew an Amiga can read and write MS-DOS disks anyhow (for taking work to and from the office) and it is bound to entertain for many more hours. So, it's up to us as consumers to tell our friends to buy Amiga. Of course, if you really don't like someone, tell them to buy Atari!

Andrew Farrell

GVP Announces a Technological Breakthrough...

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The Series II A2000 SCSI "Hard-Disk + RAM-Card"

- State-of-the-Art integration packs a high performance SCSI controller, 8MB FAST RAM Expansion and a 3.5" hard disk drive INTO A SINGLE A2000 EXPANSION SLOT!! Saves BOTH a valuable expansion slot and a peripheral bay!
- **Incredible SCSI hard disk performance** achieved through GVP's innovative new custom chip design, which provides DMA performance and unique direct dual port memory access to FAST RAM, eliminating typical DMA side effects under heavy graphics load.
- **Easy-to-install SIMM memory modules** allow flexible memory configurations from ZERO through 8MB. Supports 6MB FAST RAM configuration for BridgeBoard users.
- ***NEW FAAASTROM™* SCSI Driver** offers optimum performance and includes such features as:
  - ✓ Supports virtually any SCSI device including, CD-ROMs, Tape Drives, IOMEGA Bernoulli drives, etc.
  - ✓ Fully implements SCSI Disconnect/Reconnect protocol, allowing overlapping SCSI commands to be executed.
  - ✓ Fully implements Commodore's Rigid Disk Block (RDB) standard as well as the new DIRECT SCSI interface standard.
  - ✓ Removable media drive support. Automatically senses cartridge changes and informs AmigaDOS, ensuring safe and reliable use of removable media SCSI drives.
  - ✓ Allows Direct AUTOBOOT from Fast File System Partition.
- **New INTUITION COMPATIBLE SCSI installation and "tuning" utility** included. Major features include:
  - ✓ ICON and gadget based INTUITION interface.
  - ✓ Bad Block Remapping of hard drives.
  - ✓ Auto or manual hard drive partitioning and AmigaDOS formatting.
  - ✓ Read and modify existing RDB parameters on hard disk.
  - ✓ Simplest and Easiest SCSI installation in the industry.
- **Low parts count (through VLSI Integration) EQUALS:** lower power, higher reliability, longer life and ultimate PRICE/PERFORMANCE! See TRADE-UP offer.

The Series II A2000 SCSI "Hard-Disk-Card"

- Same as above but without the 8MB FAST RAM capability.
- **Specially designed** for those users who don't need memory expansion but still need maximum hard disk performance at a budget price.
- **UNBEATABLE VALUE.** See $199 trade-up offer!

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Hard-Disk-Card

GVP's New *FAAASTROM* SCSI driver and installation software is also available as an upgrade kit for GVP's original IMPACT SCSI controllers, for ONLY $89.95. Offers major performance increase over previous GVP AUTOBOOT EPROMs.

New Series II 48MB Removable media hard disk drive. GVP now also offers the NEXT GENERATION removable media hard disk drive which offers increased capacity (48MB formatted) and major technological advances in cartridge air flow filtering design and robustness. Call for details.

SCSI TIMES 1990

The ULTIMATE Trade-Up Offer???

GVP today introduced its new Series II product line and announced a bold new trade-up program, which is certain to further bolster GVP's dominant market share in the Amiga hard drive market.

Details of GVP's new TRADE-UP program are as follows:

- For $199 plus $6 for shipping (Aus only) end-users can trade-up to the new GVP Series II SCSI "Hard-Disk-Card" (without drive) by simply sending in their present SCSI controller (from ANY manufacturer) together with a money order or certified check, payable directly to GVP.
- All trade-in controllers must be sent to GVP FREIGHT PREPAID.
- Owners of any GVP or Commodore SCSI controllers, are eligible for an additional $10 rebate, if they trade-in a FULLY FUNCTIONAL and working controller. These owners need to submit a certified cheque/money order for $195 only.
- For an additional $89, existing controllers can be traded-up to the new Series II "Hard-Disk+RAM-Card," which includes the 8MB FAST RAM expansion capability, populated with ZERO RAM.

"Let's Standardize"

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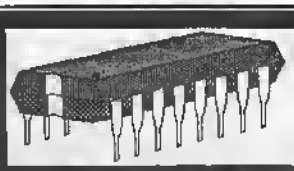
Ram Rumbles



In the Media and Commodores at Work

As the number of "Commodore in the media spottings" has dropped off, we're expanding the criteria for this section to include Commodore computers at work.

Once again, to kick things off, we're offering the best letter published for the next two months, starting next issue, a FREE six month subscription. So start sending those letters!

This month, one of our New Zealand readers reports:

"After returning from a stay in New Zealand for the past six months I was surprised to see the Amiga so widely used in the areas of television. An after school program called "3.45 Live" has a segment called "Software on Elm Street" in which they play games with viewers, show new releases and have the software "Top Ten", all of which is devoted to the Commodore Amiga. Last time I watched it a viewer assisted in capturing criminals in the Amiga version of *Where in the World is Carmen San Diego*, a review of *Sim City* was also conducted. The same show had all its credits and on screen graphics produced by the Amiga.

"During another educational show, the Video Dispatch, I was surprised to see an article on the Amiga in the textile industry. A lady was touring the country showing off her designer jumpers which with the aid of her Amiga 2500, *Digiview, Deluxe Paint II* and some specialist hardware, had made design and production easier. Commodore Banners were everywhere and it was great promotion.

"It is hard to find strong followings of Amigas in New Zealand as the Atari ST is so popular, one this is for sure, the Amiga is taken seriously in television and video production. I have seen many other shows and ads where it is ovious the Amiga has been used." Fracois Prowse, Alexandra Hills, Qld.

In the first of a number of interesting Amiga applications, Commodore's hard working PR agency informed us of one of the most unusual applications we've seen yet - and one that may well be applied to a number of other industries. The system makes selecting paint colours for your house easy.

Perfect Paint Picking

Painting your house is the easy part. It's deciding the colours that really cause the arguments! The problem is, of course, that most people really don't have any ability to visualise what their house will look like in a certain colour. They're even less able to work out what goes with what. Which colour for the guttering, the window frames, the doors and so on.

You go along to the paint store and you take all those little swatches of colour, and compare them with other colours, and contrasting colours... and end up even more confused than when you started.

Have you ever, secretly, wondered what your house would look like in bright purple? Of course, you'll never know, because you're not going to waste all that paint (and money) to find out. Or take the chance that the next door neighbour will never talk to you again!

Wouldn't it be nice if you could just find out... You can using ColorVision. It doesn't look like an Amiga - it looks more like a tall box with a TV screen built in. But inside that box is the "works" of a Commodore Amiga computer, and a special program which can show you just what your house will look like.

The first step is to select a house that looks like yours, from ColorVision's inbuilt picture library. Of course, it won't be exactly the same - but in this case, near enough is more than good enough. Then, using a pointer on the screen moved by rolling a track-ball on the unit, you simply select the colours you'd like to see. Chop and change to your heart's content. Mix colour combinations you'd never even considered.

ColorVision has revolutionised the way people overseas are selecting their colour schemes. It's been a huge hit in the US and even in New Zealand. Now ColorVision is coming to Australia. There are separate programs for inside the house, so you can select furnishing and fittings colours the same way. There's no need to get the lounge recovered to see if you like it that way! In Australia, you're likely to see a ColorVision display unit at major paint and decorating centres

Amiga gets snapshots from space

Over the last 70 years, the CSIRO has been responsible for many of Australia's technical and scientific advances. A recent innovation is an image processing system produced by scientists from the CSIRO Division of Mathematics and Statistics and Curtin University.

Called the A-Image system, it processes images from the Landsat satellite orbit-

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ing high above our planet. Satellites such as Landsat are providing us with an exciting new view of Earth. Landsat transmits its data to an earth receiving station at Alice Springs, where it is recorded on computer tape. This tape is sent to a processing centre in Canberra, which corrects distortions in the data.The A-Image system is able to accept and process the data, so that it is capable of being examined and analysed on a personal computer. While "remote sensing" may not be a new technique, its full power has hitherto been unavailable to the home computer user.

The applications of the A-Image system are many and varied. For example, a farmer might use the images to detect salination or areas of waterlogging on his property. The information gained in remote sensing also has practical benefits in crop forecasting and land use patterns. It has already been used to map rainforest and estimate the extend of bushfires.

A-Image has applications in the marine environment, too: sea surface temperatures and currents can be extracted, identifying likely fishing grounds where the cool and warm currents meet.

Geologists and exploration companies have made use of A-Image in data analysis and display. Projects overseas include water use planning in Sarawak and land use in Thailand.

The A-Image package is designed to operate with the Amiga computer, selected because of its excellent graphics handling capabilities. Any Amiga can be used providing it has at least 1 megabyte of memory.The software makes full use of the Amiga's multiple windows, with pull down menus, mouse control and a display of 4096 colours. A second disk drive is recommended.

Cost of the data provided by Landsat is quite economic, especially considering the value of the hardware which provides it! An area of 30km x 40km costs a little over $100.

A-Image is designed to help the user gain important information from a satellite image. To do this, it features a three colour display, grey level or pseudo colour display, together with various indices and filters.

From the original data, the computer could highlight areas of rainforest, or irrigations, etc. But it goes much further than that. The "negative zoom" allows users to pinpoint specific areas of interest, and the software will determine line and pixel coordinates and colour levels for any selected points.

Optional statistical routines can then determine a typicality index and the probabilities of certain "class labels". For instance an image could be classified to show the atypical areas of a region in a contrasting colour.

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Update

Well, we have been flooded with so much new stock I don't know where to start. Firstly, some great new education has arrived - Better Spelling for Ages 8-Adult, Better Maths for Ages 12-16, Maths Mania for Ages 8-12, and Magic Maths for Ages 4-8. These are all available on the Amiga, C64 and PC. Specifically for the Amiga The Three Bears, a great educational adventure for Ages 5-10, and Junior Typing for Ages 6-14.

Fun School 3 has just arrived for the Amiga. There are three great titles ranging from preschoolers up to secondary. Each title covers six different subjects to help the child in logic and reasoning.

In Entertainment, Atomix has just arrived and is a very addictive game where you move molecules around to construct the required atom. Available on Amiga, C64 and PC.

Don't forget our other great titles such as West-Phaser, Superman, Sherman M4, Tennis Cup and Emlyn Hughes Soccer.

Great new books such as The Leisure Suit Larry Story, which is a book of Hints, Tips & Tricks for all the Larry series. Also, Take Off, a book to help you with Micro Soft Flight Simulator. Remember Corish's Hints, Tips & Pokes, which is a book covering over 400 games and adventures.

For home and small business we have the Business Card Maker and a wide selection of Word Processors, Data Bases & Spreadsheets for all computers. Also,we have Scanners available for the Amiga and PC.

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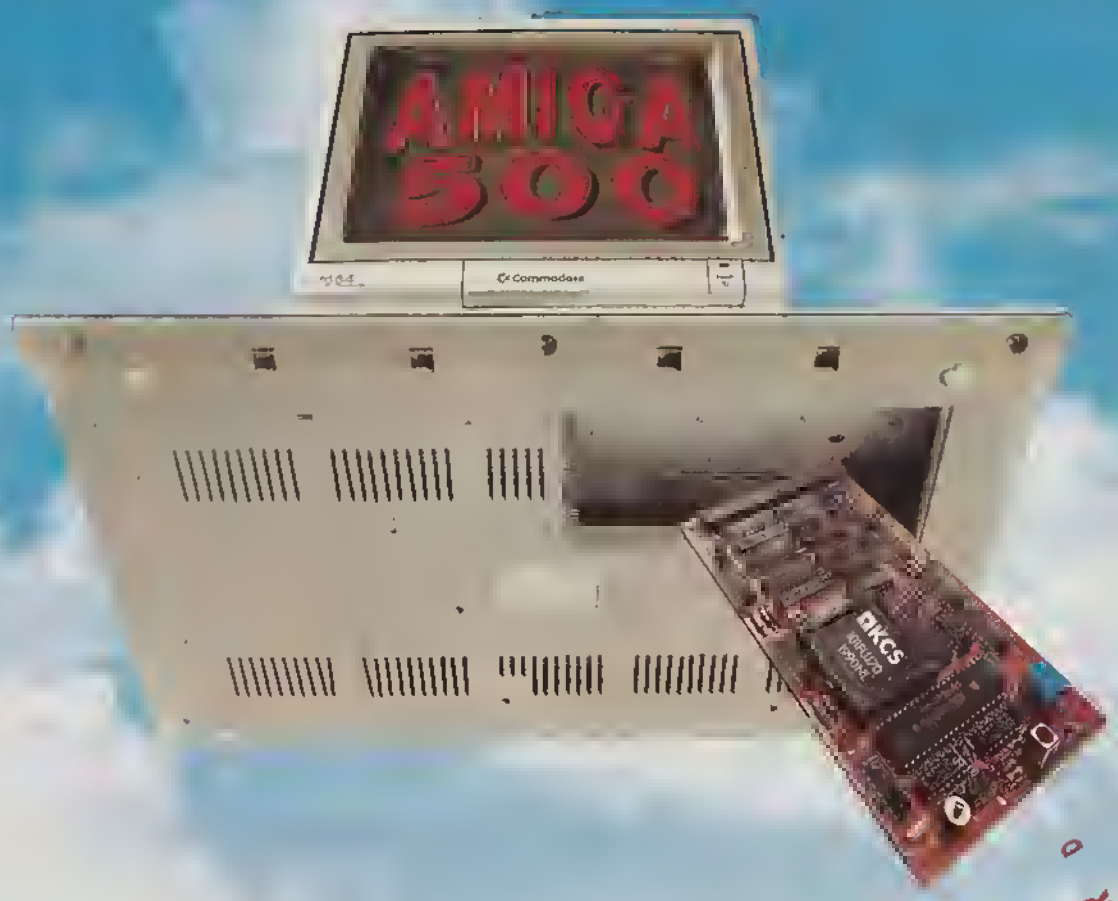

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You are now ready to use a wealth of professional MS DOS software at speeds faster than a PC/XT (incl. review). and in colour, with compatibility thanks to Phoenix-Bios.

You can also rely on the correct date and time at any moment in Amiga and MS DOS mode (with the aid of a battery).

- ★ Video support: monochrome, Hercules and Colour Graphics Adaptor (CGA) (4 and 8 colours)
- ★ Disk support: internal 3.5" external 3.5" external 5¼" drive. (Software-upgrade to H/D A590 in pipeline)
- ★ Including MS DOS 4.01, MS DOS shell and GW Basic (market value approx £130.00)
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DEALER ENQUIRIES WELCOME

News

Melton Manufacturing distribute Freeze Machine

Melton Manufacturing is now manufacturing and distributing Evesham Micro's products for Australia and New Zealand. The first of these products ready for sale is Freeze Machine for the Commodore 64. As this item has been on the market for some time before Melton took over manufacturing, they have started out with a price reduction to try and boost sales. The Freeze Machine will have an RRP$59.95.

10,000 C64s to China

In the largest sale of C64 computers ever made in the Asia/Pacific region, 10,000 Commodore computers have been ordered by a Chinese trading house for distribution through the People's Republic. The deal was organised through Commodore's Australian operation.

Managing Director of Commodore Australia, Mr Pat Byrne, said that he believed it was the largest order Commodore had received anywhere in the world for C64's. It is anticipated that the huge volume going into China will assist software developers and writers in the area.

"While there is a vast amount of C64 software around, we think the Chinese are going to need more specialised versions," said Mr. Byrne. "That's good for software writers who can tap into the market." Mr. Byrne did not rule out future orders of even greater magnitude. In fact, he anticipates exactly that. "When you look at the population of China," he said, "even 10,000 computers aren't going to go too far."

Mail List Manager

Keystone Software has released *Mail List Manager* for Commodore 64 and 128 (40 and 80 column). The program features drop down menus, easy to use entry windows, quick sorting on any field, view up to 15 records at a time. When loaded, you are given the option of standard US or International addressing, using post office specifications.

With nine pre-designed fields including two or three user defined, no set up time is required. Scrolling is fast, all records are in memory for fast access, fast sorts. Import and export functions, print labels, index cards, name badges. Can use your designs created by Keystone's *Label Maker* version 2 (including printer fonts and colours).

You can elect to print one record at a time, pick and choose for exporting or printing, or print the entire list - you have complete control. *Mail List Manager* features unique select before printing or exporting, use any disk drive at any address, fast Mail List load and save times, insert mode and true caplock mode, fast sorting on any field, find any record in less than a second, supports up to four disk drives and two printers. *Mail List Manager* is published by Keystone Software at a suggested retail price of $49.95 (distributed by Computermate). Both 64 and 128 versions are included in the same package.

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VideoCenter

Another budget genlock has entered the market from the U.K. G2's new VideoCenter combines the facilities of a Video Mixer, Genlocker and PAL Encoder at an economic price.

The VideoCenter mixes an incoming PAL video signal with the computer output, using sliding faders or under software control. It additionally provides a filtered RGB output and has YC inputs and outputs to take full advantage of S-VHS systems. An NTSC version also available.

MAST in Melbourne

Memory and Storage Technology have opened an outlet in Melbourne. Most popular items will be held in stock and, overnight delivery can be arranged. Ring Stewart Forster on (03) 347 4612.

Desktop Contacts

Desktop Utilities have released *Contact*, from Australian software company CMF Software. *Contact* promises to make it easier to keep your list of contacts on computer rather than in an address book. *Contact* enables you to maintain a phone and address list of business and personal contacts. *Contact* will print address labels for any or all contacts and can automatically dial the phone for a given contact.

Contact provides automatic sorting of entries. It also has a facility for the user to customise sorting for each entry, using other than the default time in that entry for sorting. The Amiga clipboard is supported to enable addresses to be inserted in word processing documents. For applications which do not support the clipboard, there is also a Type facility to achieve this.

As with other products from CMF Software (*CalcKey, SmartKey, PostCode*), *Contact* is a pop-up memory resident program, meaning that access to any contact in your list is only a keystroke away. *Contact* has built-in support for ARexx, allowing data exchange between it and other ARexx-friendly applications, enabling the user to write scripts for particular purposes.

An ARexx routine for selecting a particular class of entries is already provided and will serve as a helpful working example of ARexx scripting with *Contact*. This will become even more important with the advent of Workbench 2.0, which includes ARexx as standard. *Contact* supports all preferences printers, as well as PostScript printers (another first!).

Contact is 100% made in Australia, distributed in Australasia by Desktop Utilities, RRP $60. Contact Joanne Keighley at Desktop Utilities (06) 239 6658 or BBS (06) 239 6659 or Fax (06) 239 6619.

CanDo follow up

INOVAtronics is shipping the first *CanDo* follow up product, *CanDo Pro Pak 1*. *Pro Pak 1* consists of several outstanding, professionally designed decks (*CanDo* generated software applications), powerful utilities for use with *CanDo* and some extremely useful extensions to *CanDo* itself. Strategy and real time games and a paint program, all created in *CanDo*, showcase *CanDo*'s abilities as a multi-talented applications generator, while other new modules highlight *CanDo* extendibility. The package includes a disk and manual, retails for $64.95.

CanDo Intro Pak, a tutorial intensive guide to learning the ins and outs of *CanDo*, will also be available soon. This package includes seven decks on a disk, arranged in ascending order of complexity, and an extensive manual which walks the user through a step-by-step description of how the decks were created. *Intro Pak* was designed to bridge the gap between *CanDo* beginner and *CanDo* expert. Technical topics, general scripting, installation, and tool type settings are covered. *Intro Pak* will retail for $64.95. *CanDo* products are distributed in Australia by Computermate Products - (02) 457 8388.

SuperClips 2

Desktop publishers will be happy to know there is now a range of professional structured clipart including credit cards, dots, equipment, music, industrial, unusual marks and attention getters. *SuperClips* can be used with *Professional Page* and *Professional Draw* desktop publishing software. Grey scale images may be coloured to taste for jaggie-free printing as well as full colour separations, grey scale, or

cont. on p12

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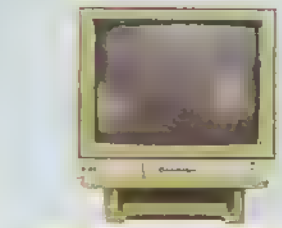

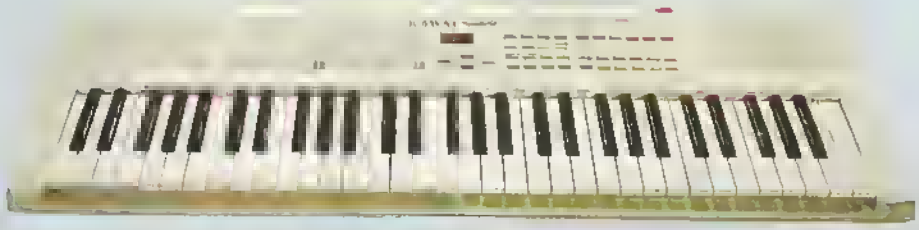

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A new selection of high quality AGFA Compugraphic outline fonts are available. This versatile collection of fonts can be used at any point size, presenting new creative opportunities for Amiga artists, designers, video producers and desktop publishers. You can use them as Bitmap Fonts in any Amiga program. You can now create Amiga fonts at virtually any point size. These can be placed in any Amiga product supporting Amiga fonts - paint, animation, video titling, presentation or desktop publishing. Because you can create bitmap fonts at arbitrary point sizes, you won't suffer the jaggies which occur from scaling regular Amiga fonts. With *Gold Disk Type*, you can dramatically improve screen fonts in any Amiga application.

The fonts boast high resolution dot matrix, plus Postscript compatibility. They may also be used in *Professional Page* version 1.3 or higher and *Professional Draw*. And, because they are outline fonts, they will output to the highest resolution of your printer : 9 or 24 pin dot matrix, colour inkjets, LaserJets, Deskjets or any PostScript device including high resolution imagesetters. *Gold Disk Type* is distributed by Dataflow Products on (02) 331 6153, RRP $79.95.

Gold Disk Office

With the release of a number of new Gold Disk products not too far away, it looks like the existing range can look forward to new life as part of *Gold Disk Office* - a bundled, semi-integrated package combining desktop publishing, wordprocessing, spreadsheet and flat-file database. The package takes some advantage of ARexx and compatible data formats to allow reasonable levels of integration.

For example, you can add notes to cells in *Calc* using *Write*, incorporate graphics from *Graph* within documents in *Page*, merge customer lists in *File* with letters created in *Write*. From the preliminary manual we saw, it appears these renamed programs are in fact *Transcript*, *PageSetter II* (now with Postscript output), *The Advantage* and a graphics program called *Chart*. No doubt additional features have been added to these programs to keep them competitive. Features according to the press releases are:

Office Write - high performance, lightning fast word processor featuring fast and smooth text editing, easy to use text operations; 90,000 word spell checking with "guess spelling" technology; auto index and mail merge capabilities; and low memory usage for efficient multitasking. *Office Write* may also be called directly from within *Office Calc* or *Office Page*.

Office Calc - complete business spreadsheet featuring intelligent recalculation for increased speeds; spreadsheet sizes of 32,000 rows by 32,000 columns; comprehensive ARexx support for sophisticated spreadsheet programming; 18 digit internal precision; over 100 statistical, financial, and trigonometric functiuons; multiple spreadsheets and views; and on-line support to *Office Write* for adding notes to any cell.

Office Page - Integrate text and graphics to create stunning handouts, flyers, brochures, ads, newsletters and more. Features easy to use interface, full typographical control over typeface, point size, style and line spacing, AGFA Compugraphic outline fonts for high resolution output on any printer - from dot matrix to laser, full PostScript support, a complete set of page layout tools - ruler, grid, snap-to, column, and margins; compatibility with IFF graphics, *Professional Draw* clips, and most Amiga word processors; and on-line support for *Office Write* for extensive text editing.

Office File - powerful, easy to use, flat file database with ultra fast sorting and indexing; up to 32,767 records per file; up to 256 fields per record and 254 characters per field; unlimited user defined indices, and a full featured report and form generator.

Office Graph - a powerful business graphics package with high resolution, multi-colour, two and three dimensional charts and graphs and compatibility with *Office Calc* spreadsheets. Graphs can be saved as standard IFF format pictures or structured clips for importing into *Office Page*.

Distributed by Dataflow, (02) 331 6153, RRP $399.95

Still Video Player

The just released Canon RV-321 still video player is the latest addition to the rapidly expanding range of still video technology, and is an ideal resource for conferences, presentations and desktop publishing. (For an updated review of the Canon Still Video Camera see the October/November issue of *Professional Amiga User*).

Equipped with a special interface capability, the still video player can be connected to a Canon Interface Adaptor (IA-V32) and then to a personal computer via an RS-232C interface. The personal computer can then send signals to the player to rapidly control which still video images are displayed. For conferences and presentations, one or more still video players can provide quality high resolution images quickly and efficiently either on to a large screen or to video monitors.

The Canon RV-321 features high quality image playback, horizontal video resolution of 500 lines or more, an S-video terminal, instant image erase capability, original mode and frame recognition, and automatic repeat playback (interval playback). Canon Australia, (02) 805 2337.

C.A.P.E. 68k Assembler

INOVAtronics has released the new 2.5 version of the

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C.A.P.E. 68k assembler for the Amiga. This release adds several significant improvements to CAPE's already impressive feature list.

New in CAPE 2.5 are three external modules, designed for increasing efficiency, in both development time and source code. HLink, CAPE's new assembler-specific linker, is small, simple to use, and FAST. PMD (Program Module Dismemberer) disassembles code and data from object modules. And, finally, HProf is CAPE's new profiler, for pinpointing relatively inefficient sections of code in a program. HProf, combined with CAPE's outstanding optimization capabilities, makes it easier than ever to write outstandingly efficient assembler code.

The primary improvement to the assembler itself is a major increase in assembly speed: 70,000 lines per minute, with bursts up to 100,000 lines per minute. Also, CAPE's documentation has been greatly enhanced to include basic assembler tutorials, a complete 68000 directive list, and other reference material.

"When you consider the quality of this extended environment and the code it produces, and the INOVAtronics commitment to peerless technical support, it's not surprising that CAPE is the assembler of choice for the Amiga development community," said president Martin Murray.

24-bit colour from local developer

Colourburst is a new totally transparent module that plugs into the RGB Video port of any Amiga. It has 772k on board, and using a custom gate array can display up to 16.8 million colours simultaneously without relying on HAM techniques. You may display as many colours on the screen as there are pixels, and (unlike HAM) each pixel is independantly definable.

Colourburst also allows you to digitally genlock on a pixel by pixel basis, a normal Amiga screen over a high resolution, Amiga generated multicolour backdrop. Colourburst has a special Imagefreezer that lets you create or import a 16 million colour image and dump it to Colourburst, freeing up your Chip RAM to generate high speed blits for spectacular animation. This effectively provides you with a third hardware playfield, complete with transparent colour that, after it is formed, uses very little Chip RAM.

Colourburst has a variety of screen modes, including high and low resolution, interlaced or non-interlaced, and 16,256,4096 or 16.8 million simultaneous colours. Colourburst also supports the 256 colour mode used on the less expensive Colourtease. These modes can be changed dynamically on a line-by-line basis.

Output can be saved to video, and may also be genlocked. Because the graphics data originates in the Amiga's Chip RAM, it can be manipulated using the Copper and Blitter. Colourburst will be supplied with software to display *Sculpt* and *Digiview* images in full 24 bit colour. The developers are contacting suppliers of paint programs to have them make modifications to support Colourburst. A version of Blitz Basic will also be released to support the fantastic colour modes now available to Amiga owners. Some very colourful games will be released using this technology.

Colourtease is the budget version of Colourburst. In its normal mode it can display 256 colours on screen at once. The image can be manipulated

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by the custom chips, saved to video, and overlaid with a genlock. Each colour can be chosen from the palette of 16.8 million colours, however it lacks the storage capabilities of Colourburst, and does not support Imagefreeze.

It does have a Supertease mode - you can display 16.8 million colours, just like Colourburst. However, that's as far as it goes; you cannot save to video or Imagefreeze, and the image flickers. *Digiview* images look quite spectacular, but there are limitations.

Some features of Colourburst include the ability to change video modes on any scan line with no limitations. This lets you freely mix Colourburst with Amiga video, or have (for example) the top third of the screen showing 16.8 million colours, the next third showing 256 colours, and the bottom third pure Amiga graphics. Also, Imagefreeze any picture into Colourburst memory and overlay Amiga graphics in front or behind the image. Fully compatible with PAL, NTSC, genlocks and all external video accessories.

Amiga 3000 and Workbench 2.0 compatible. Expected Australian shipping date is late November in time for Christmas with an expected price of around U.S. $600.

For information contact M.A.S.T. on (02) 281 7411. Dealer enquiries welcome. M.A.S.T.'s forthcoming digitiser and framegrabber/genlock will support the Colourburst.

Pro Video Post

Shereff Systems Incorporated have released its newest character generator *Pro Video Post* in a PAL version. The PAL version of *Pro Video Post* maintains the high standards and power of its NTSC counterpart by offering two generations of enhancements over *Pro Video Plus - PAL*.

Designed with post production in mind, *Pro Video Post - PAL* adds a screen size of 720 horizontal pixels by 576 can lines, real time digital video effects (DVE's), full screen picture manipulation tools, high resolution anti-aliased fonts, voice prompts, audio cues and Workbench compatibility.

Pro Video Post - PAL's on-line features include 16 resident fonts with English, German and Swedish character sets. Seven new on-line transitions, two or four colour font patterns, character by character style, size and a choice of 16 colours per page selectable from 4096. Drop and cast shadows plus independent outline, 100 pages in memory for immediate access (up to 2600 pages with expanded memory). Design tile, wallpaper or mirror backgrounds or import graphics from paint or digitising options.

Pro Video Post - PAL begins shipping September 1990. It requires 1Mb of Chip RAM and two MB of fast RAM. Accelerator card is recommended.

PAL Broadcast Titler II

Broadcast quality video character generator for the Amiga. Breaks the Amiga resolution barrier. Four level anti aliasing eliminates jaggies. Includes 16 anti-aliased fonts, 15-100 scan lines, high multiple styles, sizes and colours on a line. Adjustable border, cast and shadow in 8 directions.

Dazzling colours - 4,096 colour palette up to 320 colours per page RGB and HSV colour sliders for easy selection, displays IFF or built-in background patterns, automatic patterned text fill with IFF brushes, colour effects include flash, fade and colour cycling.

Super smooth effects - page effects include roll, crawl, corner, push, pull, erase, wipes, flip, tumble, date/clock and many more. Or create your own effects using line-by-line Transitions playback. Modes include loop, random, access and GPI control. Installs easily on Hard Disk.

Super-Card Ami II

Super-Card Ami II is a combination hardware/software backup system. It allows you to make backup copies of any 3.5" floppy diskette. It consists of a small unit that plugs between your external floppy drive and your Amiga (any model - another version fits between two internal drives on an A2000), and a disk. The disk contains documentation and the copier itself.

Super-Card Ami "steals" the signal from the internal drive (df0:) and converts it into the necessary signal for writing identical data on the Destination disk (df1: or df2:).This process is called "DupliFlux" (Patent Pending), and gives you an exact copy of your original disk. Other products either change the clock rate (externally, via the VIDEO port), or just "force feed" the read signal into the write line with NO conversional at all. Using this method, a lot of data can be shifted and lost, causing erroneous results.

The software has a variety of options, including verify. It will copy using a number of modes, including DOS, INDEX, SPLICE or AUTO. DOS is very fast, and will copy standard Dos disks, including many older protected titles, as it switches to AUTO if it encounters an abnormal format track. INDEX mode will copy all software that uses the Index hole to mark the start/end of the tracks, while SPLICE uses intelligent routines to try and locate the start and end of tracks for non-indexed disks. AUTO is the default, and will automatically pick the most suitable copying mode.

Super-Card Ami II will copy all 3.5" disks, including Mac, IBM, Atari ST and MIDI keyboard disks, as well as Amiga software. It will even copy 5.25" disks for Apple, Atari, Commodore 64/128 and IBM (this requires two Amiga 1020 5.25" drives.) It has a verify option, has a transparency switch for when the unit is not in use and is available for Amiga, in NTSC or PAL. From M.A.S.T., RRP $169.00.

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Coming Soon: Magician
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Outboard

by Andrew Leniart

The Amiga is a complex and powerful machine which is quickly closing the gap between the home computer and a business machine. But with its ever increasing power and continued development, it is also becoming increasingly difficult for a beginner to come to grips with its complexities.

During the course of this article, we will look at various aspects of the Amiga and its DOS operating system and try to clear up some of the more common problems that a newcomer to the machine might have.

As soon as you tire of using the Amiga's workbench setup and decide to delve further into what the Amiga can do, you will find yourself turning to the Amiga's CLI (or SHELL in 1.3). The Amiga's Command Line Interface gives you access to all of the files and commands which you simply can't see or take advantage of when working in Workbench. You need a way of manipulating those files and commands to take advantage of setting up the Amiga to do what you want it to do, so Commodore supplied everyone with a simple text editor which lives in the "C" directory of your Workbench disk. Its name is Ed and you call him from the Cli simply by typing his name. Alternatively "Ed Any_File" will start Ed with the text file you wish to edit already loaded.

Using Ed, the editor

Probably the most common use for Ed would be rearranging the startup sequence of your boot disk. Creating various batch files is another common use. But a lot of people get put off (quite rightly) from using Ed because of its many commands, all of which must be accessed through various combinations of keyboard strokes. The mouse is not active when working with Ed, so there are no pull down menus with which to select commands. Here is a rather obvious, but not so commonly used method of jolting one's memory when working with Ed; or for that matter, any text editor which has keyboard input for commands.

Ed uses two types of commands, so you first must decide which type of command works better for you. Briefly, the two types are "Direct Commands" and "Command Mode Commands". Direct commands execute immediately the appropriate key combination is pressed while Command Mode commands consist of pressing the Escape key first and then the key which corresponds to the command you want executed followed by the return key. You can tell when you are in Command Mode by an asterisk which appears in the lower left corner of the editor's screen.

Once you've decided which style you're going to use, get hold of a couple of plain ruled stock cards available at just about any newsagency. On one of these cards, jot down the key sequences which you will need to execute the most commonly used commands when working with the editor. You can find all of these in the back of the users manual (for want of a more suitable and printable term for it) which you should have got with your Amiga. Having done this, fold the card in half; or if you've used the whole card, stick one to the back of it with a bit of tape on top so that it can free stand. Keep this reference card in a handy and easily accessible place so that when you use Ed, all you need do is sit it on top or beside your computer where it will serve to jolt your memory at a glance. Simple, but effective!

Other options to Ed

As I said before, Ed is not the best choice one could make for a text editor. There are many excellent editors available for the Amiga which will cost you virtually nothing. I am of course talking about the Public Domain.

Prime Artifax have a theme disk which I put together devoted to text editors and of the many available on it, one goes by the name of Qed. Qed is a shareware (try before you buy) text editor which was programmed by a chap named Darren M. Greenwald in America who is continually updating and improving the editor to suit requests from registered users. It's a totally different and considerably more powerful beast compared to Ed and is far more user friendly. Nearly all of its features are accessible via the mouse and menu method which is far more easier to use. Keyboard equivalents can also be used for those that prefer to work this way and it has the capability to take advantage of AREXX macro's, which serves to make it a totally user configurable editor. Note that you would need to become a registered user to take advantage of this capability.

I can highly recommend you try this editor as I am a heavy user of it myself. I use Qed for all my text editing as well as for most of my word processing needs. As a matter of fact, this article along with all of my others was produced using Qed. Briefly, some of Qed's capabilities include:

- an extremely fast search and replace function
- automatic back up of files
- overstrike and wordwrap mode
- text formatting
- hard and soft tabs
- block and document editing
- printing capabilities and many other features too numerous to mention here.

Probably the best feature of Qed in my opinion is its ease of use and excellent documentation written by the author. Being able to use the mouse to position the cursor and scroll through a document is a great boon after you've been struggling with something like Ed, so do yourself a favour and check it out. I've seen many come and go and tried the best percentage of them and haven't looked back yet. One problem with using text editors such as Ed or Qed is that when they save files, they don't supply an icon for the file. You can view any text file from the Cli simply by TYPEing it. Type My_Text will scroll the contents of

the My_Text file in the Cli window. The scrolling can be paused by pressing any key and resumed with the backspace key. Another technique is just to hold the right mouse button to pause the scrolling. But what if you want to be able to read the file from workbench?

Viewing text files from Workbench

This is not as difficult as it might seem. If the editor you use to create files does not supply an icon for workbench, simply supply one yourself. While it is possible to make an appropriate icon with a tool like Icon Ed (also on your Workbench), it is far easier to simply pinch one from another file which already has one. Everybody who has an unmodified Workbench disk will also have a copy of Notepad. This is a type of joke which Commodore decided to include on your system disk and call a word processor. To be fair, it is very simple to use and probably a fair introduction to word processing for the utter beginner, albeit lacking somewhat in documentation. When Notepad saves a file, it supplies the file with a Project icon. This is just the thing you need to view your own creations from Workbench.

Notepad is a type of joke which Commodore decided to include on the system disk and call a word processor

Here's how to go about it:

Let's say you have a file on your Workbench disk created with Notepad called My_File. If you do a "Dir" of the disk in Cli, you will notice that there is also an entry named "My_File.info". This .info file is the actual icon which you see on WorkBench. You could simply RENAME the .info file to that of the file you want to use, but that would effectively leave you without an icon for the My_File file! (I'm sure that there's a better way to word that, but anyway..) To avoid this problem, go through the following steps in a Cli, assuming the file you want to create an icon for is called "Other-File":

Copy My_File.info to Ram:Cd Ram:
Rename My_File.info as Other-File.info
Copy Other-File.info to df0:

And that's all there is to it! Next time you click open your disk on Workbench, you will notice another icon named Other-File in it. However, because this icon was a Notepad created icon; when you double click it, the Amiga will begin to load Notepad and display your file in it. In order to use a text viewing utility like "Most" or "Less" to view Other-File, you must change the icon's default value appropriately. To do this, click once on the Other-File icon and select Info from the Workbench menu bar. A screen will appear which gives you various information about the icon you have selected. Click in the box named "Default Tool" and press the Amiga key and X simultaneously. The contents of the box will disappear. Now type in :C/less and click on the save gadget in the bottom left corner. Now the icon will default to the public domain "Less" text viewer in the disks c directory. (Less is available on any Fred Fish disk in the public domain libraries).

You can use any text viewer you choose simply by changing the icon's default value appropriately. Just make sure you have a copy of the viewer you wish to use on the disk, otherwise you will get an error message.

Fixing slow working disks

Once you've done a fair bit of writing and saving to any given disk, you will notice that it seems to take more time to access anything from it. The reason this happens is that things tend to go a bit all over the place when saving to a disk. This will be particularly noticeable on Workbench with the appearance of icons.

There are a few programs around that speed up disk access, and one which comes to mind is B.A.D. This is a commercial program which does an excellent job by re-organizing any disk's contents for optimum performance in either Cli or Workbench. However there is a cheaper and reasonably effective way of getting a similar result simply by using the COPY command. First of all you will need to format a blank disk. Either choose "Initialize" from the Workbench menu or type in the Cli:

Format Drive DF1: Name anyname

Assuming the slow disk is in Df0: and the anyname disk is in df1: You now just *copy* the slow disk to the newly formatted disk using this procedure:

Copy Df0: to Df1: all

The Amiga will take a fair bit of time to complete the procedure if the disk is fairly full, but once it has done its job, you should find that the newly copied disk has much quicker disk access speeds. Why? Because when you copy a whole disk's contents to another disk, the Amiga reorganizes the structure of the destination disk and puts files relating to each other nearer to each other.

A couple of tips for Workbench users

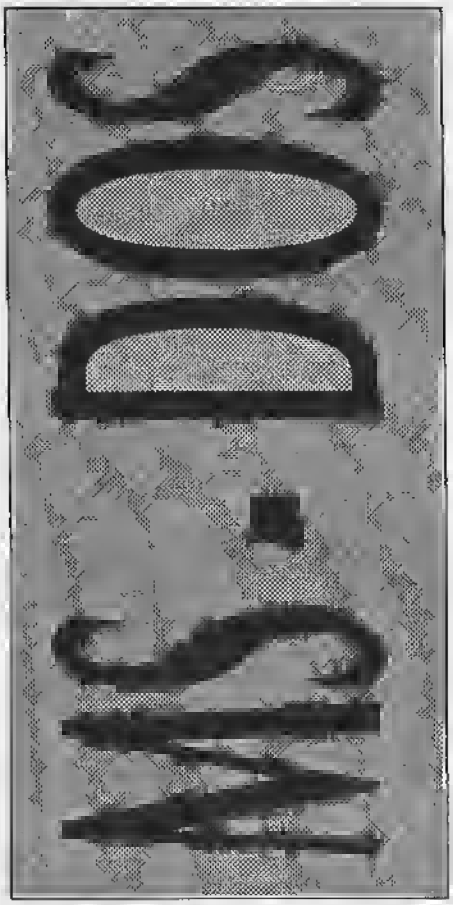
Most will know that if you click on a text icon from a word processor, hold down the shift key and double click the "More" icon in WB 1.3, then the file will be displayed by the More viewer. But did you know that you can also do the reverse? Let's say you have a document produced by Notepad and you wanted to work on it in your *KindWords* word processor. All you need do is click once on the Notepad icon, hold down the Shift key and double click the *KindWords* Word Processor icon. *KindWords* will then load with the document in question already loaded on screen.

Pointing a Preferred pointer

Pointers and Workbench go together like bread goes with butter. One often sees various creations on other disks and it is possible to have any type of pointer you may see without the need of spending ages trying to re-create it with the preferences program.

For example, if you see a pointer which particularly impresses you on a public domain disk or whatever, simply copy the System-Configuration file from that disk to the devs directory of the disk you wish to use that pointer with. You will first need to delete or rename the system-configuration file on your own disk. Once you have the other disk's configuration file on your own disk, re-boot and you will find your preferred pointer now exists on your own disk. However, as the System-Configuration file also contains details of screen colours, printer settings etc, you will still need to enter Preferences to reset all of these to your own personal liking. Still heaps simpler than having to draw a complicated pointer from scratch!

Anyway, that's about it from me for now. I hope you enjoyed what was written here and got some value out of it. Till the next time...



MS-DOS meets the Amiga 500

Turbo KCS Power PC Board

by George Kimpton

Probably the most excruciating torture for an Amiga fan is to find it compulsory to use MS-DOS at work when all the time they would dearly love to use the flexibility of their Amiga.

As a dyed in the wool Amiga user it may sound strange to hear me say that there are also times when we have no choice but to use MS-DOS computers, as most places of employment are geared around them exclusively.

There are also many very sophisticated business programs, unfortunately not yet available for the Amiga, which are vital to the operation of those businesses. Thus there are many times when we must have a foot in both camps to make a living.

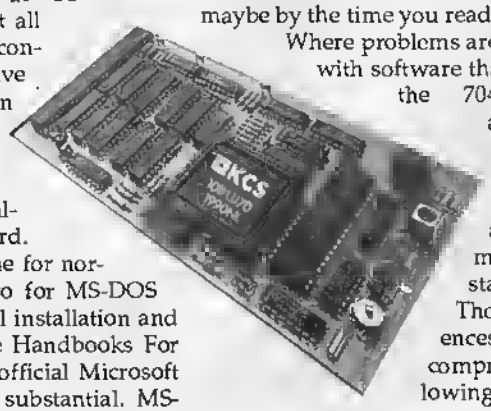
There are also times when it would be just great if you could bring unfinished projects home from the office but there is no way you are going to let that MS-DOS replace your beloved Amiga without a fight. You could of course buy an Amiga 2000 or a 2500 and install a bridge board but that costs lots of loot and you already have a 500 sitting on the table.

What to do? How do you get the best of both worlds? Recently, visiting John Fonhof of Fonhof Computers, I was introduced to the answer, the KCS Power PC Board (V1.32) which plugs into the memory expansion slot under the Amiga 500. Now quite frankly I usually avoid MS-DOS like the plague but, watching John kick up both the Amiga format then the MS-DOS so easily, I was impressed by the performance of the PC Board or Turbo XT as it is sometimes called. It is everything it is claimed to be.

In this day and age of miniaturisation we tend to take many things for granted. The KCS Power PC board is quite a package when you consider what it provides and then remember that the expansion slot it fits into was only intended to hold 500K of memory. It also lives up to the tag "Turbo", being tested at 3.3 times faster than an IBM XT.

What you get

The board uses an NEC V30 processor and contains a custom chip, a battery operated clock and 1Mb of RAM, half of which can be set up as a RAMdisk for Amiga use. The V30 chip is a 16 bit 8086 clone running at 7.14MHz. (Most XT Turbo clones now run at between 8 and 10 MHz). It all comes in a neat package containing the PC board, five 3.5 program disks, an MS-DOS Handbook, a MS-DOS shell handbook and an instruction manual for the installation and use of the board.



The disks include one for normal Amiga booting, two for MS-DOS installation, one for shell installation and the PC Work Disk. The Handbooks For MS-DOS and shell are official Microsoft publications and quite substantial. MS-DOS version is 4.01.

The PC Board manual, though small (16 pages) is well written and easy to follow. It takes you step by step through the installation and setting up. Even someone like me who steers clear of MS-DOS found it very easy to convert the Amiga 500 to an MS-DOS PC/XT and have it up and running.

At that point I let John take over and demonstrate the running of some MS-DOS software like *Lotus 123*, *Word Perfect* and others. They all looked to be running well and tests with *Norton Integrator* indicated a speed of 3.3 times a normal XT.

Setting up

To get back to the setting up, when you first start-up with the Amiga disk you can make use of an installation program to set various preferences simply by holding down the left mouse button during start-up. This brings up a language menu, in case your English is not good, and then an option menu.

This option menu allows you to install a hardware clock or a 512K RAMdisk or both, remove the RAMdisk, set the PC Preferences or Quit. The Clock operates on both the Amiga and PC modes. The KCS power PC board contains 1 Megabyte of memory in addition to the normal 512K in the Amiga 500 thus allowing you to install a 512K RAMdisk. With the current version there is some conflict with the A590 Hard Disk and this RAMdisk in the PC mode but John assures me this is to be corrected very soon, maybe by the time you read this.

Where problems are encountered with software that doesn't like the 704K memory available, switching is available to reduce the available memory to the standard 640K. The PC Preferences are very comprehensive, allowing for up to four

drives which can be either 3.5 or 5.25 and set in a variety of configurations. Be careful here with overloading of the Power Supply, an external supply may be needed if more than one external drive is required.

Provision is also made to set up Video, Sound, Printer, Mouse, RS232 Ports, Joysticks and the keyboard.

Some very specific adjustments are possible on the drives for those who know what they are doing like Step Times, Initialising times etc. but don't touch unless you know you are doing. All adjustments to these preferences are by the usual Amiga point and click.

In fact the setting up is pure Amiga friendliness, the tough part comes when you are up and running as MS-DOS as usual. These settings are then saved for future use as with normal Amiga operation. One very interesting point here is that the PC set-up can be changed on the fly with Hot Keys. Very useful in a tight spot.

Monochrome (MGA) 720 X 348 pixels and Colour (CGA) 640 X 200 or 320 X 200 pixels are supported. The MGA is Hercules compatible and allows three shades of grey. CGA supports 8 colours. Interlace mode is possible but not recommended unless you need it for video work. Character pixel height is adjustable at 8, 9 or 10 to correct for the propensity of some monitors to produce distorted text if size doesn't suit the screen density.

Printing

Three printer ports are supported (LPT1, LPT2 and LPT3). Buffer size will be adjustable up to 256 Kbytes in Version 2.0 of the software. The Mouse Systems mouse is currently supported with it being necessary to load a mouse driver (not supplied). Others will be supported later. A number of connection choices are available with two possible serial ports (COM1 and COM2) and the Amiga JOY1 and JOY2 are also available. The manufacturer claims that the maximum serial baud rate on the RS-232 output so far is 4800 in the PC mode for modem work.

Both sound volume and keyboard key response or delay times are adjustable by on screen sliders. A number of other facilities are adjustable such as Screen blanking, Colour/Black & White switching, Key clicks, Number of screen colours and colour adjustments.

You do not need MS-DOS disk drives, standard Amiga drives will do. While this is very convenient, many MS-DOS programs will be available on 5.25 disks and therefore you will still need a 5.25 drive which must be configured as Drive A.

While MS-DOS programs can be read in the PC format the Amiga mode will not recognise them. If you need your Amiga mode to read or write PC data to or from files you will still need to use *CrossDos* or *Dos to Dos*. Both the Amiga and PC modes are totally independent. There is no multi-tasking in the PC mode, data must be saved to disk if you wish to bring it into the Amiga mode. There it can be tranferred with *CrossDos* or *Dos to Dos* to the Amiga mode.

Because of the limitations put on operations by the way the Amiga is converted it is not possible to interface with special PC cards such as Scanners, Fax or special mouse cards. This is a small price to pay for what you are getting as just about everything else is possible.

While the KCS Power PC Board may have some limitations, to me it seems very good value, certainly doing what the lower priced PC clones may do and more. Add to this the access to your Amiga with all its capabilities for other work and the fact that the PC side runs 3.3 times faster than a standard XT and you have a potent little package.

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An introduction to Synthesisers

by Daniel Rutter

Due to the lack of coverage in the Amiga media regarding the other end of Midi - the bit you connect to the end of the plug - we thought it was time to take a quick look at synthesisers in general, and help new entrants to the music scene safely bridge the cultural gulf.

This article is written in as close to plain English as I can manage in between psychedelic fugue states and bursts of jet pipe reheat volume rock, and it aims to give you enough knowledge of synthesisers to hold your own in a trendy conversation.

Synthesisers evolved out of the primitive electric organs that sprang up not long after the invention of the transistor. Before that, electric organs had valves in their amplifier circuits, cost a mint and were seldom seen.

The first real synthesisers were analogue machines. This meant they had continuous level sliders and dials to make whatever sound you wanted. Thus, you had no way of creating a sound, making another, and then going back to the first, precisely. The official method for "saving" sounds was to pencil lines on a small paper picture of all the sliders, write on the name of the sound, and go back to that when you wanted the sound again. This was a major pain in stage performances - even if you could remember all of the settings, it took more time to set it than the audience would applaud.

One example of these pre-Midi beasts that can still be found today is the Korg MS-20 (with patch cords to shunt oscillators to filters etc). Another example is the bewildering ARP 2600, built into its own vinyl covered suitcase. I'm talking OLD. It wasn't even necessary to connect the keyboard to make a noise.

Analogue synths spoke to each other via Control Voltages, very unreliable compered to MIDI. One of the last true analogue synths to appear was the Roland SH-101 (circa 1984).

Later on I'll get to what all the sliders actually did - for now I'll just rip on through the history of the keyboard.

These earlier synthesisers were not MIDI machines - which had not yet been invented. Instead they were linked by control voltages, where one patch cable carried a voltage representing pitch and a second the pulse that triggered each note.

The obvious problem here was that it took two cables for each note to be triggered, leading to tangles of patch cords.

Then came the Great Leap Forward - digital technology. With the rise of the PC, it occurred to the keyboard manufacturers that a microchip stuck inside a synth might not be a bad idea. You could save your new sounds in RAM and have a library of preset sounds in ROM which wouldn't take much memory as a set of numbers. More importantly, the manufacturers could save costs by dropping the multiple knobs and sliders for a few multiple purpose buttons.

With the new machines came MIDI, the Musical Instrument Digital Interface, which defines a common language for all synthesisers and computers. Which is where we came in.

As the workings of the synthesiser came to depend on system software there emerged the varieties of synthesis which currently compete in the music market. Most are variations on 'traditional' analogue synthesis - Linear Arithmetic, Crossfade Wavetable, Advanced Integrated and others are related variations. However Frequency Modulation is a unique system with a separate evolution, which can't really be properly covered here.

The Traditional Synthesiser

On the traditional analogue synthesiser, the sliders and buttons are arranged in a set order, mapping the creation of the sound from raw tone to the final output.

First, there's two (usually) buttons for the waveform of the VCO or Voltage Controlled Oscillator. This can be a square wave, giving a bell tone, or sawtooth wave, giving a rasping sound. Some synthesisers also have buttons for sine and triangle waves. More recent synthesisers replace the VCO with the DCO or Digitally Controlled Oscillator. Besides patch memories, this was the first benefit that digital electronics brought to music synthesis. The previous oscillators went out of tune on a regular basis.

Here too is a control for the octave range of the waveform. It is measured in feet, and can be stepped between 4' and 32' on most machines. The higher the number, the deeper the tone, one octave for each doubling of the number. There is also a slider to add white noise, which controls the volume of "ssshhh" in the tone from none to pure noise.

Next is the Voltage Controlled Filter, which usually provides controls for the Cutoff Frequency and Resonance of the sound. The VCF is a favorite of players of slow, spectacular chords. The cutoff controls the brilliance of the tone, changing it from a clear bright sound at high frequency to a dull booming sound at the bottom end of the scale. What it does to the waveform is round it off towards a sine wave, removing all the higher harmonics that brighten the sound. The resonance control increases the volume of the sound at the point where the cutoff takes effect - making it more 'nasal'. This allows the famous "resonance sweep", which gives the sort of strange, spacy "cheeeeaaaaooouuuuwww" sound beloved of cheap splatter movie makers.

After this comes the envelope controls which shape the volume of the sound, its pitch and the cutoff frequency. There are four controls for each envelope which are:- **Attack** - how long it takes the sound to get to maximum volume after you hit the key. **Decay** - how much, if at all, it falls off in volume as you hold the key. **Sustain** - the level to which the volume falls and **Release** - how long the noise hangs around after you lift your finger.

Now we get to the **LFO** - Low Frequency Oscillator. This controls the tremolo and/or vibrato of the sound, modulating the volume, pitch and filter settings. There are two sliders, one for how fast the vibrato is and one for how far up and down it goes.

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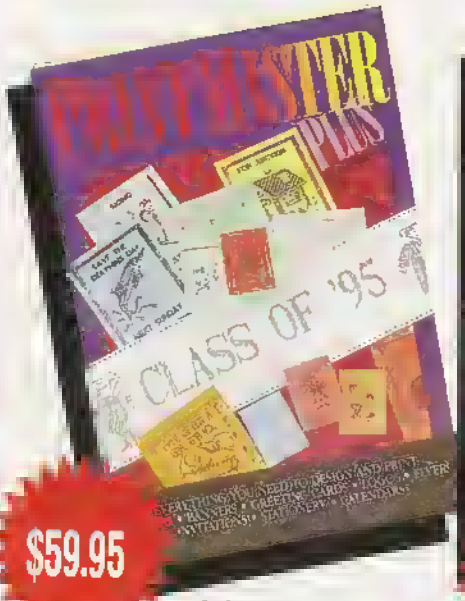
SENSATIONAL SOFTWARE



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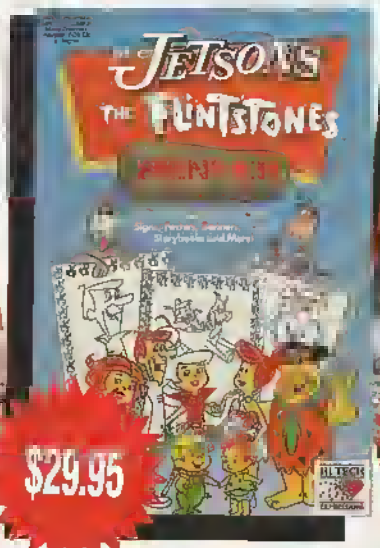

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On the left side of the keyboard is the bender lever, which changes the pitch of the tone when you move it right or left. Some bender levers can be pushed forward to kick in some extra tremolo - pricier synthesisers have full joysticks for pitch and tremolo control, cheaper ones wheels set vertically, with the edge sticking out.

There are also a few other controls, like transpose buttons to move the pitch up or down an octave and finer transpose buttons that do it in semitones, and hold buttons, which do the same as a sustain pedal but are much clumsier.

The Digital Synthesiser

Now, your digital synth has all the above, but it's controlled with buttons and a few sliders that can be assigned to multiple controls. Bigger digital synthesisers are also likely to have PCM waveforms, which stands for Pulse Code Modulation. These are complicated, but short, sampled sounds that supplement the usual square and sawtooth waves. They range from digitised drums to special effects like explosions and telephones, right through to whole backing tracks that loop in a couple of seconds. PCM waveforms are a blessing to the lazy musician, and also help enormously in the creation of realistic sounds.

The reason is not complicated - when changed in pitch a simple waveform sounds fundamentally the same. This doesn't happen with real instruments. For example a piano's high notes are completely different in timbre and envelope characteristics to its lower register. A simple waveform might sound perfect on high C, but if you try to do the thumping baseline from the Peter Gunn theme you sound like you're playing the stalactites in Jenolan Caves. So you use a PCM waveform digitised from a piano's high notes for the upper register, and tell the synth to cut the volume of that tone as the pitch drops, while raising the volume of another PCM wave that sounds like a piano bass. This is called multi-sampling.

One method of achieving this is Linear Arithmetic Synthesis, which sounds complicated but just means the synth can devote more than one oscillator at a time to each note. Which brings me to a big issue when talking about synthesisers - voices. The number of voices a synth has determines how many notes it can play at once. In the case of a LA machine, the number of voices divided by the number of tones ("partials") in each note tells you how many notes you can play at once. My little Roland D-5 has 32 voices, but with a 'four partial' sound that hops down to 8, which is still adequate for most work.

Recently there has been a reintroduction of levers and dials following the manufacturers' realisation that buttons are a pain in the proverbial when it comes to a quick change from the bottom end of a scale to the top - moving one unit at a time takes a while. So dials were brought back in on little machines like the Roland Synth Plus 10, and sliders on huge ravening monsters like the Korg flagship machines. These gizmos work surprisingly well, and make life easier.

One gadget you'll often find on expensive synthesisers is a sequencer which allows you to compose tunes and save them to RAM or, on even more expensive machines, disk. These vary widely in capabilities, but I still haven't found one that beats Doctor T's Keyboard Controlled Sequencer for the Amiga. Of course, you get fewer hookup hassles when the sequencer's part of the machine itself.

Last but definitely not least, are the keys themselves. These are usually thin plastic organ style objects, tough but unlovely. On pricier synthesisers they sense how hard you're hitting them, and from this data you can change the tone or, more usually, the volume. This is called velocity sensitivity. The keys can also be weighted, to make them feel like piano keys. This helps in delicate control of volume, but makes fast, hard playing very nasty after a while. Lightly weighted keys take a little getting used to for pianists, but most agree they make everything easier, provided you're not nuts on amazingly delicate classical stuff where the difference between molto pianissimo and pianissimo matters.

Buying a Synthesiser

by Daniel Rutter

Synths come in all shapes, sizes and price brackets. Old (read antiquated) analogue synths can be had for a song (boom, boom) but the newer devices can run into the $1000's. I'll run up the price brackets with a few examples in each for your delectation.

First, down the bottom, are the toys, with under size keyboards and one voice. The keyboard is usually around two and a half octaves, and if you think that isn't much, you're right. These are not worth a damn to any serious musician. Best used as paperweights or doorstops. Example: Realistic Concertmate 350 ($60).

A little better are the 4-voice, 3-octave gizmos, with gimmicks like stereo speakers. Still in the "You bought a WHAT?" department. E.g. Concertmate 450, $90.

For a bit more you can get a keyboard that samples - i.e. you can burp into the mike and play three octaves of burp, if such things give you a charge. Big deal. Still a gimmick - you can't save the sounds or manipulate them much. E.g. - Concertmate 500, $150.

Here we hit the top end of the baby synths. All of these creatures are not really synths, since you can't do much of a editing job on the tones. They do, however, all have automatic rhythm buttons for assorted twee bump-tishtish, BUMP-tishtish noises. At the top end, you get about four octaves and six voices on the keyboard, customised rhythms and lots of tones. There's still no MIDI hookup and if you want a velocity sensitive keyboard you can go whistle. E.g. Concertmate 660, $280.

Between the grown-up synths and the risible idiot machines, you get a number of bare-bones machines from about $400 to $700, with modifiable tones but nothing much in the way of PCM wave forms or big, velocity sensitive keyboards. Manufacturers like Yamaha and Casio go a bundle on these infant-genius machines, but they don't pack a lot of punch compared to the better keyboards.

Now we jump into the real synths, and also hike the price a bit. About the cheapest real machine you can lay your hands on, with velocity sensitive keyboard, plenty of PCM sounds and a proper LCD display to tell you what you're doing is the Yamaha DS55. This little number is excellent value - I haven't played it much, but its manual sounds good, and it's got a lot of bells and whistles which generally are not a lot of use by themselves, but all together make it a damn good machine for the money ($850).

Another price hike, and we hop up to about the best synth without a sequencer. The Roland D-5 is the synth I use, and it's good, if not fantastic, value at under $1,300. It's got a five octave velocity sensitive keyboard, the standard for most synths, lots of useful PCM's, and it's multi-timbral, which makes it a beautiful synth to use with a sequencer. The Roland D-5 can behave like 8 synths and a drum machine, and with 32 one-partial voices to play with, which means an absolute flat minimum of eight tones at a time, the music you can make with it kicks very nicely.

And up, up, up screams the price again as we break the sequencer line. About the cheapest synth with a sequencer, disk drive, and trimmings, would be the old faithful, the Roland D-20, which is effectively a D-5 with bits on. The guts are much the same, but it's an older machine so it doesn't have patch effects, but which don't make a whole hell of a lot of

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Roland's E-30 Synth: LA Synthesis, drum beats, six track sequencer, speakers, MIDI. State of the art but aimed at the domestic market.

difference. It sells for around $2,000 and is reasonable value at the price, although starting to show its age a little. The price will drop, just as with computers, as newer models show up.

Now we come to the huge, hairy, man-eating ravening monster machines, for people with big bank balances or foolish bank managers. And in this category there's one big, solid, established name. Korg. The simplest Korg is the international top-selling M1, an impressive rounded creature that sets back its lucky owners $3,150, and is worth every penny. The keyboard is a joy to play, the most responsive I've ever touched that costs less than $20,000. And the sounds are digitised, perfectly. The only thing the M1 lacks is a disk drive - it can talk happily enough to memory cards, as can most synths over $1,000.

Up another step, we enter the Korg T-series, which kicks off with the T3, which sells for a paltry $5,500. Every T synth has 8 megabytes of ROM, with an optional 512K RAM for faster and bigger operation. These monsters are not to be taken lightly - they're the best you'll ever see in any numbers. The little T3 has a standard 5 octave keyboard, but it's the same one that's on the M1, and that just about says it all. The T2 ($6,500, can you believe it?) has a bigger keyboard at a little over 6 octaves, and, oddly enough, the keyboard starts on an E and ends on a G (pianos start and end on A and most synths on C). Extra frills are minimal - it's the keyboard you're paying for, and it's lovely. The T1 (wait for it... $7,500) has a seven octave keyboard, starting on A and ending on C (88 notes), and it's piano weighted. This makes it a bit of a workout to play, but I really can't say a bad word for it. That predatory smooth, black look, with little round transparent buttons and the back lit display glowing out at you like a winking demon... it makes you feel you're unworthy of the machine; everything you play it says "that the best you can do?". Still, I can stand an insult like that.

Now we blast into the stratosphere, of price and capabilities, with the planet busting Fairlight (discontinued) and Synclavier, which are really computers with both sorts of keyboard, play and sound like dreams and cost like small houses or huge cars. You name it, they do it. If you can afford one of these, I don't know why you've got an Amiga and not a Mac II, or indeed a Cray 3.

One important thing to remember is that you don't need another synth if you've already got one - with MIDI, you can buy a module, which is essentially a synth with no keyboard that plugs into a sequencer or other synth. You can get modules for almost all real synths, and they work out a lot cheaper - for example, the M3R, the module version of the Korg M1, actually has more sounds, but sells for (only!) $2000.

So there we have it, a brief rundown of some of the synths available. Obviously budget constraints dictate your choice, but the golden rule is: Try before you purchase, acquire, invest, attain .....

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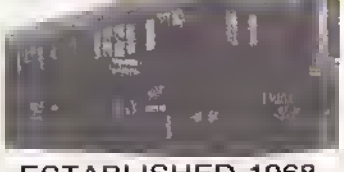

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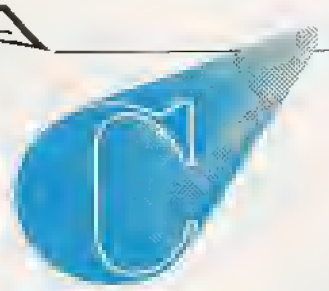

Compilers

A comparison of Public Domain offerings

by Michael Taylor

When the Amiga was first released the programming language supplied with it was ABasic (back in the days of Kickstart 1.0), a Microsoft Basic look-alike. The operating system was written using BCPL, a C like language, and all the Amiga's system libraries were documented for C or Assembly programmers. Added to this was the fact that calling system functions from Basic was not easy.

With Amiga Basic and Kickstart 1.2 it is easy to call external routines but any programs written in Basic will not run except while being interpreted by Amiga Basic. This means that Basic programs are slow and limited in size. The Amiga was in need of an inexpensive C compiler. There are a number of commercial C compilers on the market; but in Australia these cost over $400, far too expensive for the average Amiga user who probably saved up for an Amiga for quite a while.

What's available

There are a growing number of Public Domain or Shareware C Compilers available for the Amiga. However the biggest advantage of public domain software, its price, is also its biggest disadvantage. There is no guarantee of quality and support is dependent on the goodwill of the (unpaid) programmers who have probably already spent many long evenings and nights working on the programs. To help overcome this limitation I have evaluated four public domain and shareware C compilers for completeness and usability.

The first C Compiler released was on Fish Disk 53 and could only compile the most rudimentary C programs. It also had no support libraries and did not support floating point maths. This version was re-released on Fish Disk 110 along with an assembler and was more useful although still very limited. It still had no support libraries and did not support floating point. After this was released the Public Domain C Compiler, Sozobon C, from the Atari St was transferred over to the Amiga and appeared on Fish Disk 171. This compiler was ported fully on to the Amiga and appeared as Version 1.01 with floating point maths support and support libraries on Fish Disk 314.

About the same time PDC V3.3 was released. This was derived from the C Compiler on Fish Disk 110 but had been enhanced with floating point maths support, bug fixes and support libraries. NorthC was released on Fish Disk 338. This compiler originated from the Sozobon C Compiler on Fish Disk 171 but has had Floating Point Maths and support libraries added. The newest release of NorthC is V1.1 on Fish Disk 353.

Later PDC V3.33 was released on Fish Disk 351 and DICE V2.02 (Dillon Integrated C Environment) on Fish Disk 359. The last compiler is a shareware product (suggested donation $40) and will become a commercial product in the future.

So at the moment the C Compilers available in the public domain are:

- PDC V3.33
- Sozobon C V1.01
- NorthC V1.1
- DICE V2.02

Table 1:
General Information and Features

	PDC	Sozobon	NorthC	DICE
Version	3.33	1.01	1.1	2.02
Includes:				
Driver (eg CC)	Yes	Yes	Yes	Yes
Integrated Preprocessor	Yes	Yes	Yes	No
Separate Preprocessor	No	No	No	Yes
Integrated Compiler and Assembler	No	No	No	No
Make Utility	Yes	Yes	Yes	Yes(1)
Disasembler	Yes	No	No	No
Integrated Environment	No	No	No	No
Own special Assembler	No	No	No	Yes(2)
Editor Supplied	No	No	No	Yes
Source Code Supplied for:				
Start-Up	Yes	Yes	No	Yes
Libraries	Yes	Yes	No	Yes
Compiler	Yes	Yes	No	No
Disk Requirements in kilo bytes:	500	300	300	500

(1) DICE comes with DMAKE which is not a UNIX compatible make.
(2) The assembler with DICE does not handle all the M68000 opcodes but A68K is supplied with it if you wish to write assembly programs.

Table 2:
ANSI features

	PDC	Sozobon	NorthC	DICE
Prototypes	Yes	No	No	Yes
New Preprocessor Directives	Yes	No	No	Yes
<stdarg.h>	Yes	Yes	Yes	Yes

NOTE: This table does not attempt to show how closely the C compiler conforms to the ANSI C standard. There are validation suites of programs available for testing ANSI C conformance (for example the PLUM-HALL validation suite) but the aim here was to show which compilers have had ANSI features added by looking at the a couple of the most commonly used features i.e.Prototypes and the Preprocessor features such as #if and the macro "defined ( )".

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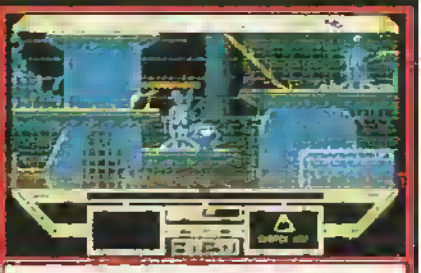

Table 3:
A comparison of Compiler Usefulness

	PDC	Sozobon	NorthC	DICE
Will Compile Itself	Yes	No(7)	-(3)	Yes(4)
Floating Point	Double Only	Single Prec Only	Single Prec Only	
Compiled Microemacs V3.10	No	No	No	No
Compiled A68K V2.61	Yes	Yes	No	Yes
Resultant Executable Size in Bytes	77500	85820	-	56336
A68 Executable Ran Correctly?	No	Yes	-	Yes

(3) No source was supplied and the documentation did not comment either way.
(4) The documentation made special mention of the fact that DICE is used for all the author's development work including DICE itself.
(7) Sozobon C was obviously compiled with Aztec C and some of the new code does not compile properly with the Sozobon Compiler. I tried editing the source code but the final executable did not resolve all the externals. At this point it was obvious that Sozobon C is not used to compile itself. The original version on fish disk 171 was also unable to compile itself even when cross-compiled on an IBM PC.

What you get

The **PDC V3.33** compiler comes compressed onto one disk and when decompressed occupies two megabytes of disk space. Full source is supplied and a working compiler environment will require about half a megabyte of disk space. A two floppy disk setup with at least one megabyte of Ram is really the minimum setup for reasonable use of this compiler. The documentation is adequate to get you up and running.

A knowledge of C is not essential but a reasonable understanding of the Amiga's Command Line Interface (CLI) is necessary. There is incomplete documentation of the supplied libraries and adequate documentation concerning the use of the CC front end.

All source code is supplied so anything not mentioned in the documentation can be gleaned by carefully inspecting the source code. Extra utilities supplied with PDC are make, libr (an object-module librarian), dasm (a disasembler) and bind (a utility used to build a stub file from .fd files).

Sozobon C V1.01 is supplied on fish disk 314 in compressed form along with Charlie Gibb's A68K assembler Version 2.61. All source code is supplied along with documentation. You will

continued on p30

Table 4:
Support Libraries

	PDC	Sozobon	NorthC	DICE
AmigaDos Functions	No	No	Yes(5)	No
String Functions	Yes	Yes	Yes	Yes
Math Functions	Yes	Yes	Yes	No
Standard IO Functions	Yes	Yes	Yes	Yes
UNIX functions(6) e.g. open()	Yes	Yes	No	Yes

(5) NorthC supplies front ends to many of the AmigaDos library functions so that all the parameters are consistent. In my experience the parameters are consistent in most cases but the occasional exception does catch you unawares.
(6) Many people have used the UNIX-like low level functions such as open(), read() and write(). It makes the compiler more usable if it supports all or many of these functions.

Table 5:
UNIX Compatibility

	PDC	Sozobon	NorthC	DICE
access	Yes	Yes	No	Yes
chdir	No	Yes	No	Yes
chmod	No	Yes	No	No
close	Yes	Yes	No	Yes
creat	Yes	Yes	No	Yes
dup	No	Yes	No	No
dup2	No	Yes	No	No
execl	No	No	No	No
fileno	No	Yes	No	No
ioctl	No	No	No	Yes
fseek	Yes	Yes	Yes	Yes
mkdir	No	Yes	No	Yes
open	Yes	Yes	No	Yes
read	Yes	Yes	No	Yes
rename	Yes	Yes	No	Yes
rmdir	No	Yes	No	Yes
stat/lstat	No	Yes	No	No
unlink	Yes	No	No	Yes
time	Yes	Yes	No	Yes
write	Yes	Yes	No	Yes
varargs.h	Yes	No	No	Yes

This table lists important functions for UNIX compatibility but is not all-inclusive.
UNIX compatibility is important when attempting to compile programs which originated on a UNIX system or which use the low-level UNIX I/O functions. A68K is an example of the second case. It is clear that NorthC would have been unable to link A68K even if it had compiled it.To put the compilers through their paces I used two public domain programs as tests for major C source projects and a number of small one module C source files. The two large multi-module programs were A68K V2.61 (on Fish disk 314) and MicroEmacs V3.10 (on Fish disk 193). Each compiler was used to compile and link a number of programs. The first is the "Sieve" program (see Listing 1). This is a benchmark program often used to test compilers. It is a single source module. The next program is "Wc", a text file word count program. Again only one source module. The next program was "A68K" Version 2.61 by Charlie Gibbs. This comprises nine source modules and is a good test of memory requirements as some of the source modules contain very large functions. In fact two of the compilers required the use of disk storage for their intermediate files rather than the RAM: disk. I also attempted to compile MicroEmacs V3.10 but none of the compilers could handle this. When each program was compiled they were executed, using a test file where necessary, to get an idea of the efficiency of the code produced by each compiler. The results are summarized in the following table (Table 6).
All the tests were run on an Amiga 500, Workbench 1.3, Kickstart 1.2, one megabyte of memory and a IBM-PC type Hard Disk Drive.

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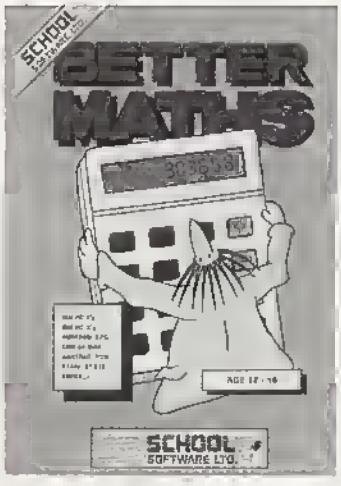

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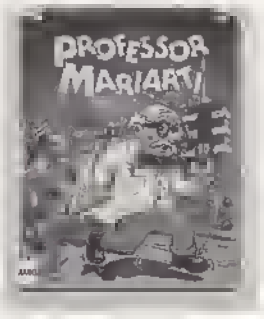

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Table 6: Benchmarks

	PDC	Sozobon	NorthC	DICE
SieveCompile and Link (Minutes)	0:28	0:22	0:21	0:15
Execution (Minutes)	0:05	0:07	0:07	0:04
Size (bytes)	8408	8796	10120	5352
WcCompile and Link	0:49	0:41	0:45	0:22
Execution	0:27	0:27	-(2)	0:26
Size (bytes)	11956	11868	-(2)	8276
A68KCompile and Link	13:48	10:00	10:49(3)	5:12
Execution (no screen i/o)	-(1)	0:39	-(3)	0:35
Execution (screen i/o)	-(1)	0:57	-(3)	0:50
Size (bytes)	77500	85820	-(3)	56332
Required Extra Disk Space For Temporary Files	Yes	No	No	Yes

(1) PDC compiled A68K correctly but the executable did not correctly execute.
(2) NorthC compiled Wc but the link failed due to unresolved references. The low-level UNIX-like system functions read (), and open () were missing from the standard libraries.(2) NorthC failed to compile one of the source modules for A68K so the final link failed and no executable was produced.

require about three hundred kilo bytes of disk space and I would recommend at least two floppy disks and one megabyte of memory.

You can run Sozobon C with just the one floppy disk drive and half a megabyte of memory but it does limit the size of the programs you can compile. Memory limits would stop compiles from using RAM disk for temporary files and the amount of room available on a single floppy would restrict the number of AmigaDos commands and other utilities available without constant disk swapping. The documentation describes setting up the compiler in reasonable detail.

The main thing to watch out for is that installation is discussed in two files. Follow the instructions in the file "Getting_Started" as it is the more complete.

The documentation of the supplied libraries is very clear and is the best of all the compilers. A make utility is supplied along with a assembly source level optimiser, top. No object-module librarian is supplied as the standard libraries are built by concatenating object modules together. This technique will work for all the compilers and is standard to the Amiga and many other machines.

NorthC V1.1 is supplied compressed on Fish Disk 353. When decompressed you will need about three hundred kilo bytes of disk space. The same system considerations should be followed as discussed for Sozobon C. The documentation is a little hazy about how to set-up the compiler but there is a file called "hello.doc" which takes you through the steps required to create a "Hello World" type program. This is probably a good place for the beginning C programmer to start.

Documentation for the supplied libraries is extensive and clear. You will require a working knowledge of C to use this documentation however. Also included is an explanation for using the Amiga's shared library routines. A object-module library is supplied to interface NorthC programs to the Amiga's support routines.

A make utility is supplied along with a simple program to aid in the building of object-module libraries. NorthC comes with some example source files including a program to display dimensional models. This is a good example of using the Amiga's graphics capabilities.

DICE V2.02 or Dillon's Integrated C Environment is supplied on Fish Disk 359 in compressed form. When decompressed it requires about four hundred kilo bytes of disk space. The documentation is clear about installation. Using the Compiler front end is also explained clearly and there is documentation for each of the compiler stages if you would like to use a different preprocessor, for example. The supplied libraries are not documented in this version unfortunately.

There is a make utility supplied and, this is the only Compiler Package that did, an editor. The editor supplied (DME) is public domain and could be used with any of these packages so the omission of an editor does not seem important.

Source code is supplied for the libraries but not for the compiler itself (this is a Shareware Compiler!).

PDC V3.33 is a very solid C compiler. The integrated preprocessor had a few problems when compiling MicroEmacs V3.10. Some #defined symbols were not replaced and caused the compile to fail. The CC front-end works well but using the -Y switch to use a different preprocessor did not work. In fact it did nothing. The documentation clearly stated that using "-Y" would invoke the stand alone preprocessor CPP (on fish disk 338). The compiled version of A68K did not execute properly either.

Taking everything into consideration this is a solid public domain C compiler and is being supported by Lionel Hummel and Paul Petersen in the United States. The compiler will compile itself so is a useful tool for studying compiler design as well as learning C itself! It has some of the new ANSI standard features such as proto-typing and I can recommend it along with Sozobon C as a good "value-for-money" (it's free!) learning tool.

Sozobon C, although lacking many of the new ANSI standard features this C compiler produced a working A68K executable. Compile speed is nothing special and the final executable size is quite large. However it comes with an assembly optimizer called "top" and the final executables will run faster than those produced by PDC when optimized using it.

Along with PDC I can recommend it as a learning tool especially as full source is included. It is only a Kernighan and Ritchie Compiler (the original specification of the C language as described in "The C Programming Language By Kernighan and Ritchie, Prentice Hall, 1st Edition, 1978).

NorthC, this compiler, although derived from the same source as Sozobon C, failed to compile A68K or MicroEmacs. It does have floating point maths and a fair implementation of the standard libraries but the supplied cc front-end is not very solid and I cannot recommend it when the PDC and Sozobon-C compilers are available especially as the source code for the libraries and compiler are not supplied, a fact I thought was odd for a public domain offering. It is also missing the low-level UNIX system functions and so is limited in the number of programs it will be able to compile.

DICE, finally we come to what I consider to be the best overall compiler. Although there was a bug (reported in the documentation that came with the compiler) that prevented it compiling MicroEmacs it compiled quicker than the other compilers

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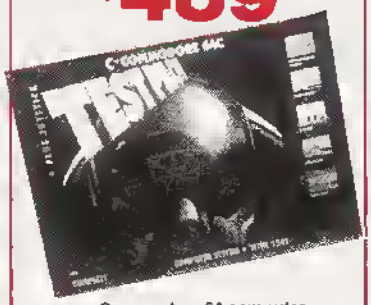

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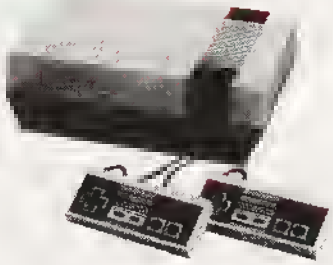

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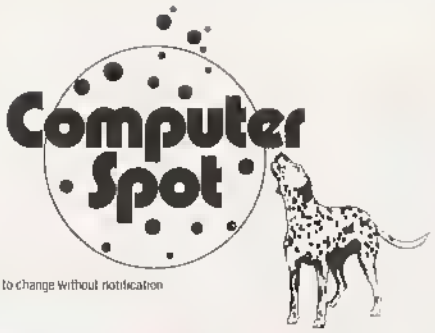

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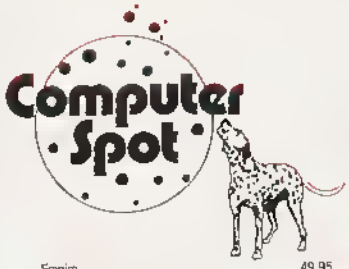

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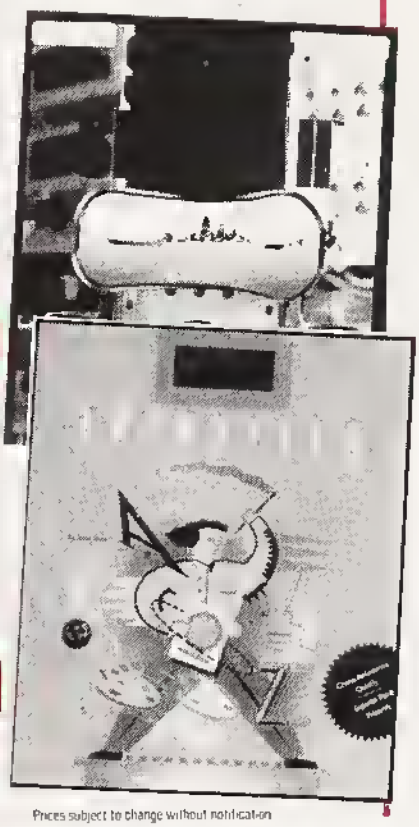

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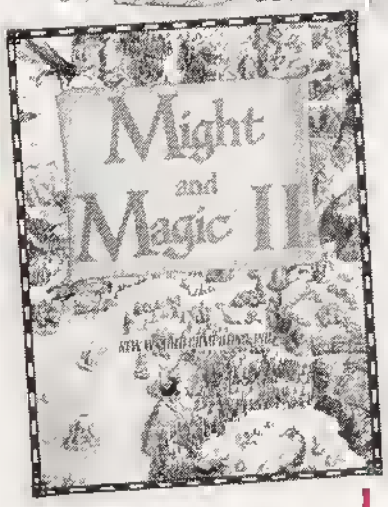

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and produced smaller executables.

Floating point maths is not yet implemented but this is in the works and if you register you will receive a version with floating point maths when it is available. DICE is by Matt Dillon, a programmer who has become a legend in the Amiga public domain marketplace, and is his first shareware release. It will also be released as a commercial product in the future but not for the next six months to a year. The question is would I pay the shareware fee? If it had compiled MicroEmacs V3.10 as well as A68K I would be very tempted to send my fee in now. As it is I will send it in as soon as I can evaluate a version with the bug I mentioned fixed and floating point maths added. Anyway you can get V2.02 on fish disk 359 and try it out for yourself! Recommended with only a few minor reservations. This is a very solid product and rivals the commercial versions in many ways.

Which version would I use?

Both Sozobon C and PDC come with full source code and would be useful for learning compiler design. Sozobon C even has an assembly source code optimizer - interesting for assembly programmers as well. Unfortunately NorthC has too many problems for me to consider at the moment and does not come with source. So if I wanted to develop programs on the Amiga I would choose DICE. If, however, I was learning C then either PDC or Sozobon C would be good choices. Bear in mind that PDC did produce an executable (for A68K) which did not work properly and is the slowest of the two when it comes to compiling and linking.

The other consideration is memory. PDC is memory hungry and so on systems with limited memory it will be limited in the size of the programs it will handle. Sozobon C might just edge out PDC on its performance in the benchmarks and it does require less disk space. Feel free to experiment as both compilers are free and either one will be a good choice!

Discography:

PDC V3.33	Fish Disk 351
Sozobon C V1.01	Fish Disk 314
NorthC V1.1	Fish Disk 353
DICE V2.02	Fish Disk 359

Listing 1: Sieve.c

```
/*
Sieve.c

Based on the ubiquitous Sieve program used in many magazines
to evaluate Compiler and machine performance

*/
#include <stdio.h>

#define true  1
#define false  0
#define SIZE  8190

char flags[SIZE+1];

int
main()
{

int i, p, k, cnt, iter;

printf ("10 iterations\n");

for (iter = 1; iter <= 10; iter++) {

cnt = 0;

/* initialize array of prime / non-prime indicators */
for (i = 0; i <= SIZE; i++)
flags[i] = true;

/*
find primes in first SIZE integers
*/
for (i = 0; i <= SIZE; i++) {
if (flags[i]) {
p = i + i + 3;
k = i + p;
while (k <= SIZE) {
flags[k] = false;
k += p;
}

++cnt;
}
}
}

printf("\nNumber of primes was %d\n", cnt);

 exit (0);
```

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Pagefox

A Desktop Publishing system for the C-64

by Eric Holroyd

I'm continually surprised by the high quality of new items for the 64 which continue to appear in spite of the industry gurus who keep insisting that it's dying off. I know the Amiga has sold in vast numbers and a lot of 64ers have traded in on it, but the fact remains that there were over 1,000,000 pieces of 64 software sold in the last financial year. This shows that there are many dedicated users still out there and it's these folks who, I'm sure, will be interested in this package.

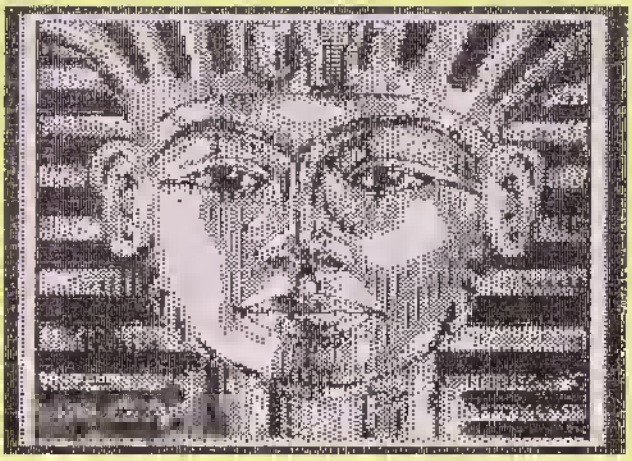
Having an Amiga as well as my trusty 64 means that I've already gotten used to the so called 'graphical interface' where files are loaded, programs are run and pictures displayed etc all by directing the on-screen pointer and clicking a button. Berkeley Softworks excellent GEOS has brought this same environment to the 64 and 128, and so many non-Amiga users will have seen the system in action on their machines too.

Pagefox uses just such a 'point and click' system with icons (pictorial representations) of various tasks in its various menus. There are keyboard alternatives for many of the icons too and much use is made of the C= key for this. In my experience with various Amiga programs I've ended up using a combination of point and click and the keyboard commands. Like anything else, whatever works best for you, once you've actually got used to the program, MUST be right.

The actual pointing and clicking can be done with either a joystick or the Commodore 1351 mouse, with *Pagefox* automatically recognising which device is being used. I found the joystick method (waggle the stick around to move the pointer and press the firebutton to select) to be a little clumsy, just as I did when I was using GEOS a lot. I don't have a 1351 mouse to try it out with unfortunately, but I've got no doubt that it would work well as *Pagefox* seems to have been designed with the mouse in mind.

You could either get the mouse yourself or go for the miniature 'joystick' device called the 'Icontroller' which was made specifically for GEOS users to point and click with. I used one for quite some time and found it perfect. It sticks to the front corner of your keyboard and is finger operated to move the pointer around the screen and I think it's a quite viable (and inexpensive) alternative to the mouse.

Pagefox comes from Germany and is produced by the Scanntronik company (who also make a great graphics scanner for the 64, and more about this later) and has in fact been available there for some time. It was first copyrighted in 1987 and the version I looked at was the latest update.



The entire *Pagefox* program is on a cartridge which means that it doesn't use any of the 64's memory, plus it loads instantly when you switch on the computer. At power-up you're automatically in the 'Layout Editor' which is one of the three main areas of the program. The other two are the Text Editor and the Graphic Editor. There's a chapter dedicated to each of the Editors in the manual which gives you a rundown of the various features and explains just what each icon does. The cartridge may be left in place whilst you use other programs if you wish, with C= and Q allowing you to exit to BASIC.

The manual recommends that you fit a Reset switch too, if you haven't already done so. That way, if you quit to BASIC accidentally you can get back into *Pagefox* by pressing the Reset switch and have all your data still intact in memory.

Graphic Editor

The Graphic Editor is a full-featured drawing program with its features spread over three different menus. It lets you create drawings, sketches and other graphics using Lines, Boxes, Circles, Ellipses etc. It has Spray and Fill features and allows you to enter text in a variety of font styles and sizes. The MOVE command deserves a special mention as it allows you to move a graphic object around the screen for absolute 'pixel perfect' placement wherever you want it.

There's a Zoom command to magnify the picture for accurate detail work, plus you have Erase and Undo features too. Graphics may be overlaid with 'And', 'Exor' and 'Or' icons and whilst you're drawing you'll know exactly where you are in relation to the finished full page thanks to the 'Display of Coordinates' readout.

Freehand drawing is allowed too, as are 'Stamps' and 'Brushes' where you pick a section of the picture out and use it as a Brush to paint with or a Rubber Stamp to make patterns with. A good example of this might be a 'Smiley' face with which you could paint all around the picture to make a border for a kid's greetings card.

There's a Sprite Editor built in to the Graphics Editor too as well as a kind of Photo Laboratory where you set the size and shape of your graphics and store them on disk for later use. This section is also where you integrate your graphics into the text and make a complete layout, such as a newspaper page for instance.

Then, before sending it to the printer, you can see the fully finished job right there on screen EXACTLY as it will be on paper. This is known as WYSIWYG -

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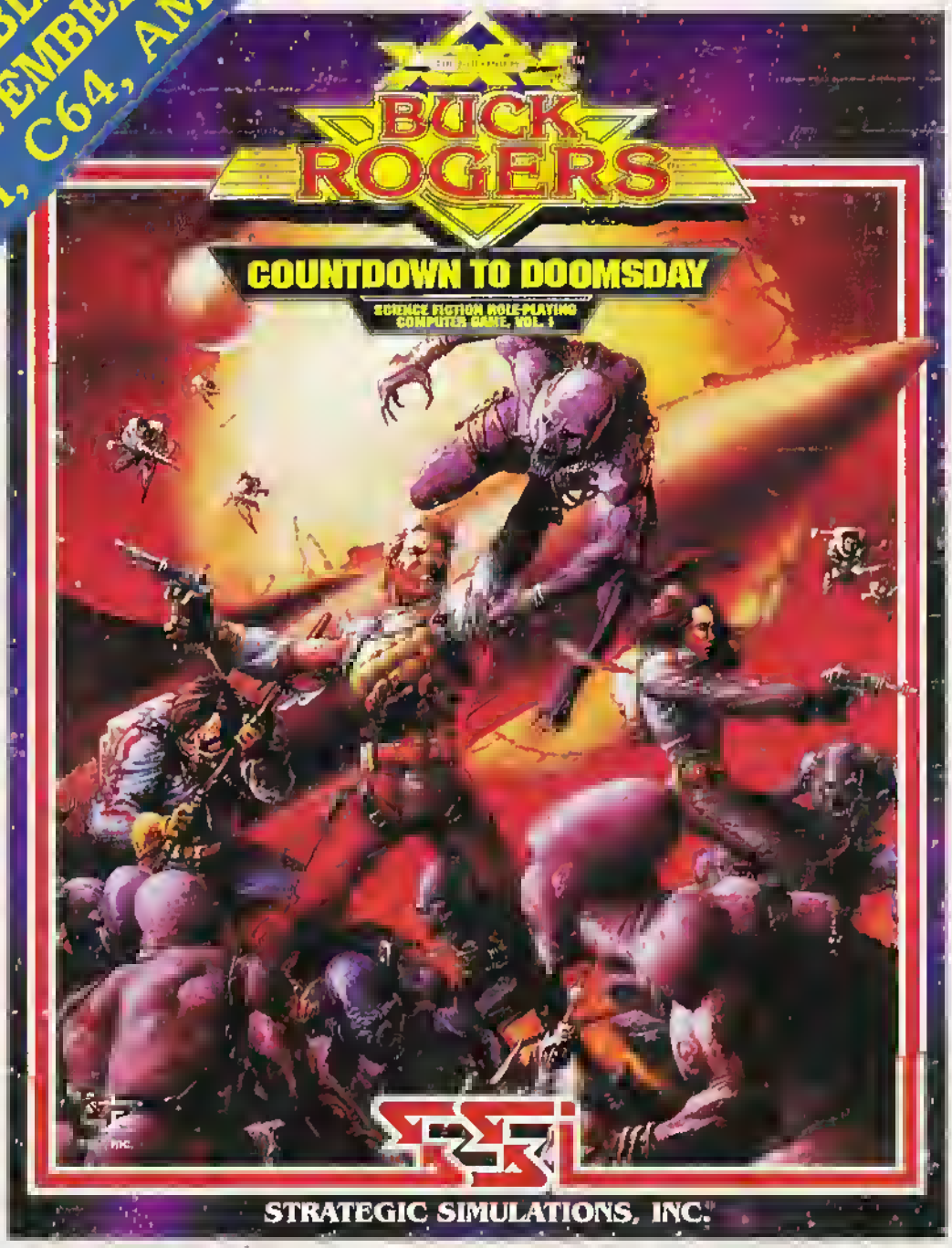

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which is an acronym for What You See Is What You Get - and is really quite an amazing feature. What's more, you can actually produce a full A4 page - viewable over eight screens - due to the enlarged memory made available by having *Pagefox* on cartridge.

The *Pagefox* format is 600 x 800 points pixels and is automatically compressed during Saving both to reduce load time and to save disk space, whilst the other (earlier and uncompressed) formats are 600 x 400 due to their lower memory constraints.

Printouts are done directly from the Layout Editor, and multiple documents with mixed text and graphics may be printed automatically (this feature is also known as 'global' printing). When in the Graphic Editor you may also do a printout, but it's restricted to whatever is in the graphic memory, or you may opt to print just a section of it. A good range of 9-pin dot matrix printers is supported - Star, Commodore, BMC80, Shinwa, Mannesmann etc etc - and in three quality levels. The highest level is quite acceptable for newsletters, brochures, flyers etc and with a good printer ribbon you can get some pretty high class results.

Text Editor

The Text Editor is a sort of word processor where you enter and edit the text you'll be using in your finished job. The manual says that it's very similar to *Vizawrite* and is a logical follow-on (with some improvements naturally) to their *Printfox*. It uses 'embedded commands' to control features such as: Boldface, Double Height, Double Width, Underlining, Sub- & Super-scripts, Italics etc and your text may also be done in 3D-Outline, Relief, or Shadow styles too.

All the regular word processing functions are included, such as: Cut, Copy and Paste, Indent, Tabs, Insert or Overwrite, Search & Replace etc. Entry into the Text Editor is by clicking onto the 'T' in the Layout Editor menu or by pressing C= and T together. (Incidentally, there's an appendix in the manual of all the keyboard equivalents along with other useful information). A really nice Text Editor feature is the CAPS function which you can activate during a Search & Replace to allow case sensitivity. For instance, if you want to search for 'the' and activate CAPS then *Pagefox* will find both 'the' and 'THE'. If it's not activated then it'll only find the word in the case in which you typed the word to Search for.

There's another nice one in Search and Replace in that you can use CTRL and J as a 'joker', eg, if you enter the Search word as "s(CTRL/J)me it would then find all occurrences of 'some' and 'same'.

Disk access from within the Text Editor is quite straightforward as regards Loading and Saving of files either via icons or keyboard commands (C= and L for load, C= and S for save) but there's a special Save command which lets you save just a part of the text by first marking it as you do for Cut and Paste. This can be very useful if you're putting together a special job using portions of text from several previously created documents. It certainly saves you a lot of re-typing! Reloading of these saved portions is a breeze as you're given a choice between 'Load' and 'Mix' with the first one being a normal load whilst the second lets you load a file on top of the current file with the new one being inserted at the cursor position. Using 'Mix' it's quite easy to load a number of short files to build up a complete document.

Other nice features incorporated into the Text Editor in-

continued on p42

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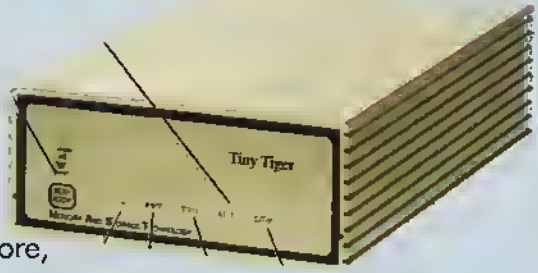

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clude hyphenation and automatic formatting. The latter is a form of right justification, which means that you get a nice straight line at the right hand side rather than ragged line endings. Hyphenation means that the program splits up a word and inserts a hyphen to make it all look right and you have a great deal of control over where and when it does this. The 'Joker' (CTRL & J) is used here to let *Pagefox* know that it can (if necessary) split a word with a hyphen. If the text formats OK without the need for Hyphenation then the Joker is ignored. Neat!

A feature only found previously in high level DTP programs is that of 'Kerning' which is best described as the adjustment of spaces between specific words as a final 'fine tune' to give your text that professional look. Really fine control down to just a couple of pixels is possible and of course, Kerning really comes into its own when using the larger fonts.

I'd talked earlier about the use of various fonts and there are 12 different ones built into *Pagefox* - Antiqua, Bocklin, Sans Serif, Futura etc - with examples of each shown in the manual. Each of these can be used in varying degrees of Outline and Shadow and there's FULL user control over the degree of outline shading used so that you can get some stunning effects. What happens is that you set the distance between the shadow and the character itself with an embedded command - one that you can see on screen but which doesn't get printed. The manual claims over 6000 possible combinations of font and style variations!

As I mentioned at the start of all this, when you switch on the 64 with the *Pagefox* cartridge in place you automatically go straight into the Layout Editor. This uses the 'rubber band' box system which *Koala Pad* and GEOS users will already be familiar with, and for the uninitiated this simply means that you set the top left corner of the box with a click and move the pointer to where the bottom right corner is to be and click again. The box then appears on screen and is all ready to receive your text and graphics.

It's quite easy to define a 'newspaper page' as a large box and you can have 1, 2 or 3 columns inside it. You can then load or enter data into the page with the text automatically flowing around graphics. The various icons on the menu let you select the different functions as in the other Editors and it's basically a question of following the manual as you're learning how to use the program so as to fully understand it all.

Like any other worthwhile 'productivity' program it's going to take a little while to learn to use and there's such a wealth of facilities built into *Pagefox* that it would take a mini-manual to explain it all here. Suffice it to say that it's a high class, full featured, professional Desk Top Publishing program, the like of which I never thought I'd see on the Commodore 64. The results from an ordinary 9-pin dot-matrix printer are excellent and if you have a requirement for advertising brochures, fliers, school newspapers, user group newsletters etc, then I can't think of any program that will do it as well as this one.

Manual

My only complaint about the whole thing is the manual. It's a 100-page effort, produced entirely with *Pagefox* itself, and was apparently translated from the original German by someone who's not all that good with English. It took me a little while to understand some of the features due to the quaint phraseology used here and there.

My major complaint with the manual was that whoever had compiled it had done a nice index but had omitted any page numbers alongside it. Pages are numbered, but there's no reference in the index to a specific page so that if you're looking up, say 'Global Printing', you have to thumb through the book to find it! Most unusual, but I believe the distributor is currently having talks with Scanntronik about a manual revision to cover the points I've raised.

The accompanying Demo disk has numerous files to help you get started with *Pagefox* and it's useful to load them up one by one and study the various commands to see how they work when you do the printout. I find this method of learning a program most useful and recommend that users take a little time to work through each demo file.

Graphics from Handyscanner 64 (the other Scanntronik product I mentioned earlier) are completely compatible with *Pagefox* and I see this as a terrific combination of hardware for your 64. Imagine producing your newsletter with pictures of various personalities mixed in with the text, or detail from product brochures or magazines scanned in *Pagefox*. Or how about your own Christmas cards with photos of the kids?

The possibilities are endless and I'm sure that readers could think up a personal list of things to do with a scanner and a good DTP.

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HandyScanner 64 Preview

Serious C64 desktop publishers will be looking at filling their designs with graphics and illustrations. What better way than to use a scanner. Eric Holroyd managed a quick preview of the C64 Handy Scanner.

Handyscanner 64 looks like an oversized mouse and it works by being rolled over the picture to be scanned. It reads the picture as data into the 64's memory and once scanned, the picture can be 'tweaked' in various ways by Handyscanner's associated software which comes on a single disk.

A whole host of graphics manipulation features are provided. You can scale the picture to various sizes, make it darker or lighter or clip bits of it for use by themselves. If you own the *PageFox* program you can scan a picture directly into a document - which is pretty incredible when you come to think of it - not to mention time saving.

Both black and white or colour artwork may be scanned and of course if you have a colour printer you'll be able to print everything in just like the original from which you scanned. This would be nice for say, calendars with family photos, party invitations or thank you cards.

Whilst Handyscanner is fully compatible with *PageFox* (they were designed to work together) it IS a complete 'stand alone' unit too and you can scan all kinds of pictures and save them to a data disk for later use in slide shows and video displays as well as in DTP work.

Interface

Handyscanner comes with an interface which needs a small amount of current to drive it, and this is provided by a very sturdy West German power supply which has a two-pin plug on its cable. Naturally, this won't fit our domestic power sockets so the kit also includes a very handy multiple adaptor which you first of all plug into the wall, then plug the power supply into that. There are two sockets on the back of the interface which take the output from the power supply and the scanner itself. All this should be done with the power off at the wall and the computer switched off, of course.

This unit seems like a world first to me as I'd never heard of a scanner like this for the 64 before and it certainly pushes the computer to new heights of technical capabilities as far as I can see. Pictures are scanned with a resolution of 200 d.p.i. (dots per inch) on the Commodore 64, which is quite a respectable definition.

What I really think is a great feature is that the Handyscanner is completely compatible with the IBM PC (and its clones of course) which means that this single unit can be used at the office for business applications and taken home at evenings and weekends for the family to use on the Commodore 64! There's a PC Board required for IBM use and the resolution on the PC is at 400 d.p.i. The IBM compatibility is a great feature and I can imagine many households with both computers, or at least a 64 at home and a PC at the office.

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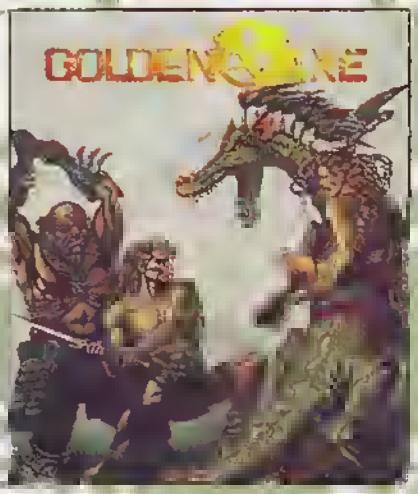

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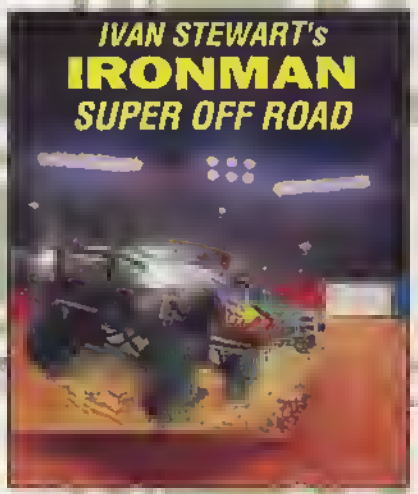

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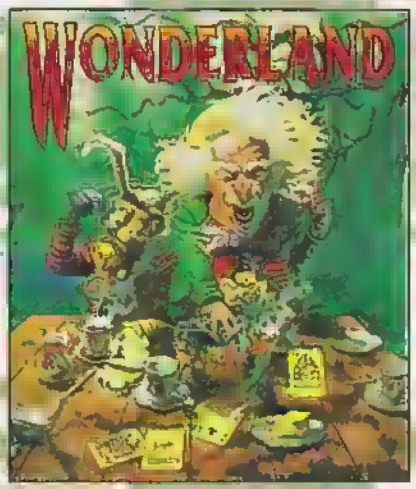

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Using Tiger Cub

by Eric Holroyd

This little gem from Dr T's Music Software was recently reviewed in ACAR and judging by the number of comments we've had, it's already proving to be very popular with Amiga musicians. The package is billed as "the music program for the rest of us" - which is a fair summation as it's an easy-to-use yet powerful music processor that works with or without a MIDI synthesiser connected.

As the band of *Tiger Cub* users seems to be growing so rapidly we thought it would be useful to run a series of tutorial articles on it, both with and without the MIDI keyboard connected. To avoid confusion with terminology I'll be referring to the MIDI keyboard from here on in as a synthesiser (or synth) rather than an instrument because that particular word is already used by *Tiger Cub*. Also, any references to the keyboard will mean the Amiga keyboard. In this first article I'll be showing how to get up and running using MIDI.

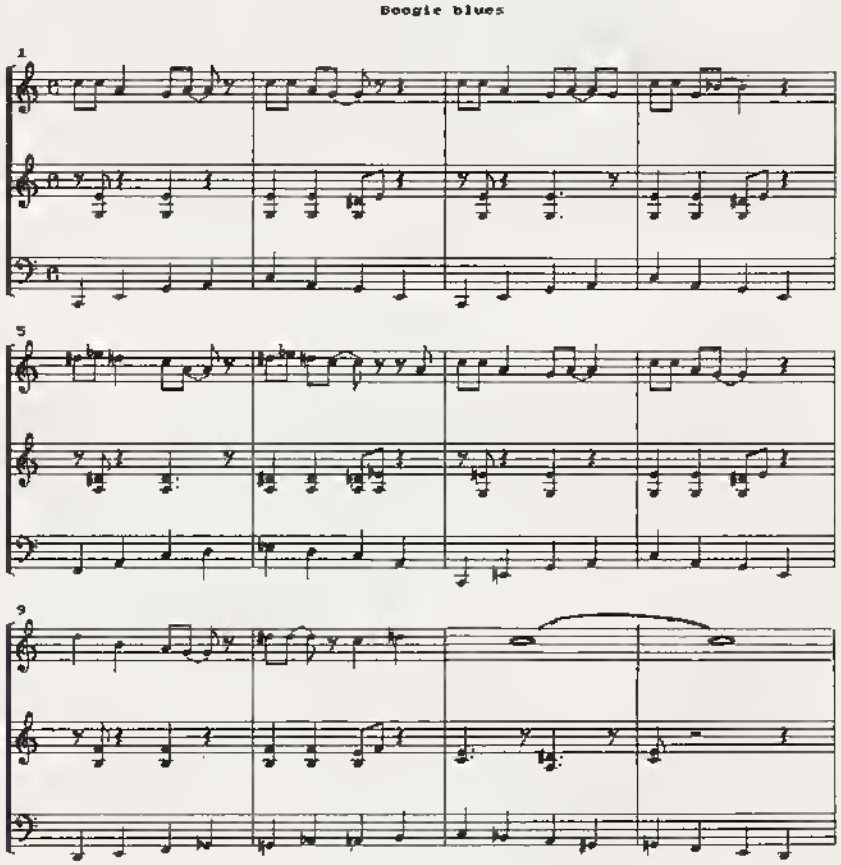
The package is billed as "the music program for the rest of us" - which is a fair summation

To do this you'll need a MIDI 'interface' to connect your synth to the Amiga. *Tiger Cub* will work with almost any brand of interface, and the simplest type consisting of a serial port plug with two cables fitted with 5 pin DIN plugs is all that's necessary if you only intend to use one synthesiser. Plug the interface into the Amiga and the two plugs into the IN and OUT sockets of your synthesiser and you're ready to go. If you have more than one synthesiser then you'll need to get a more complicated interface that allows 'MIDI thru' in addition to the 'MIDI in and out' functions of the simple type. This will apply if you want to use, for example, a synthesiser coupled up to an external sound module plus a drum machine. One of them needs to be designated as the 'master controller' and *Tiger Cub* lets you do this easily. The master controller will then 'trigger' the other devices as and when you determine in your music and it's not very hard to do at all.

I'd imagine that if you own this much hardware then you'll probably know what you're doing anyway but to explain that to new users contemplating buying those extras let me say that it's not as frightening as you might think to connect all this stuff. Many of these musical devices have 'MIDI thru' sockets so that each may be connected to the next by a cable IN and another one OUT. Check out the illustrations shown here to see how it all works.

The MIDI concept itself is an international standard agreed upon by electronics companies in the early 80's which allows musical synthesisers and computers to 'talk' to each other. For a complete understanding of the subject I'd recommend the book that's become the industry 'Bible': *MIDI for Musicians* by Craig Anderton. I know that Sydney music shops such as Venue Music and The Guitar Factory stock it and the bigger book shops would too.

All of Dr T's music software is written to comply with the MIDI standard and once you've got your synthesiser hooked up to the Amiga and loaded *Tiger Cub* it makes everything as simple as playing



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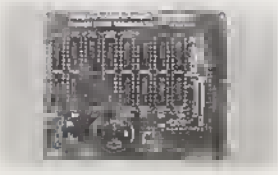

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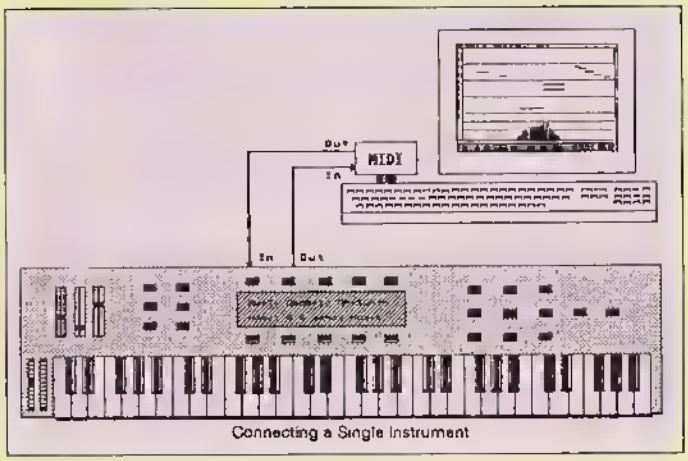
your synth into a tape recorder. Whatever you play on the synth will be 'recorded' into Amiga's memory and you can record more and more tracks - *Tiger Cub* allows 12 tracks plus a 'Conductor Track - to 'overdub' them, and of course there are facilities to save it all to disk for replay later. Using a MIDI synth with *Tiger Cub* means that whatever music you play and record will be played back using the synth's own sounds and voices. In later issues we'll be working without the MIDI synth by using the mouse to 'paint' notes onto the graphic editing screen's 'piano roll' display, which will be played back using Amiga's internal sounds. We'll also be discussing how to set up Instrument Libraries using IFF sounds from other sources.



Connecting a Single Instrument

Do make sure before you start that you have a blank formatted data disk ready to use for storing your creations before loading *Tiger Cub*. During loading you'll need to set the Memory Allocation on a requestor which comes up. This simply reserves the amount of memory for the number of notes to be recorded and the default setting is around 25000 'events' (MIDI notes). If you want to reserve more memory for your masterpiece then just move the slider up to change the amount.

All this ties in with Dr T's brilliant Multi Program Environment (MPE) which lets you have other programs such as Patch Editors in memory at the same time for changing around the sounds that you'll be working with. It's the old story: you can never have too much memory. I seem to get along OK with 1.5 meg on my A-1000 and have done some quite long multi track tunes without running into trouble. Once you've set the Memory Allocation during the loading procedure the only way to reset it is to first of all SAVE your work then reboot.

Let's look first at *Tiger Cub's* tape recorder screen, which is the screen that comes up when the program is loaded. The top two thirds is taken up with a listing of Tracks & Instruments plus Channel, Solo, Mute etc. It also has a useful section at the right where you may enter comments (Melody Line, Bass Riff, Accompaniment etc) to tell just what's in each track. The bottom section has the 'tape recorder' controls in the centre as well as other info such as Metronome & Tempo and the all important Bar:Beat:Step display. This runs continuously whilst the music is playing to let you know exactly where you are in the song.

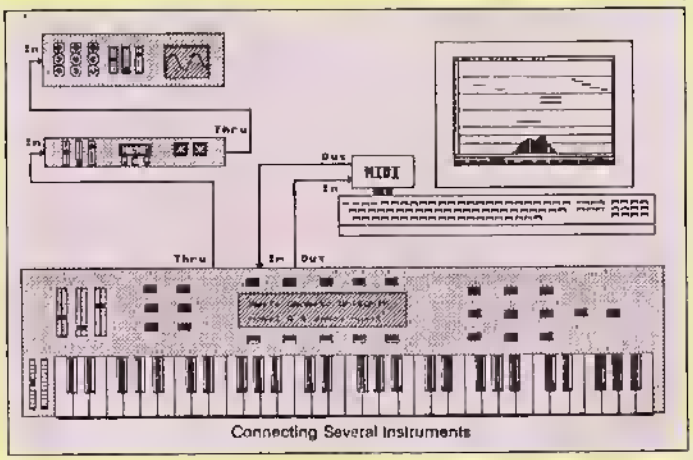
Various `buttons' at left and right of these controls control a multitude of functions (Edit, MIDI Merge, Quantize etc) by clicking onto them with the mouse. The control panel works pretty much like a tape recorder in that it has Play & Record, Fast Forward and Rewind, & Stop and Pause buttons. These can be clicked on with the mouse or there are keyboard equivalents. These are well documented in the manual and there's an appendix at the back with a full listing of them. I found it useful to do an enlarged photocopy of these two pages and have it handy when working as a combination of keyboard commands and mouse clicks works best for me.

Having got this far it's time to start recording some music. The first step is to set the time signature and the length of the song and this is done from the Project menu. Select 'New' here and enter 12 in the edit window then select 4/4. This will let us play a 12 bar blues which is a nice easy thing to start off with.

To help keep time there's a Metronome click of course, and I like to use *Tiger Cub's* 'Count In' feature as well. This is activated from the Utilities menu where you select 'Environment' which then lets you set the Count In setting. I like to use a four beat count in so I'd put the figure 4 in the window there (left click onto the existing figure, then enter 4 and press Return).

The simple tune printed here is one I've written for you to enter and use as a demo and when you're all set up and ready to start recording it with your synth just click onto the Record button (F2 is the keyboard equivalent). Go to the Quantize button at the bottom left hand corner of the tape recorder screen and toggle the arrows until you have an eighth note (or quaver) shown. This sets Quantization (Auto Correction) of the music as you're playing it in to that value and your notes will be suitably 'rounded off'. This is a very useful feature and *Tiger Cub* has several other ways of quantization in other areas of the program.

Next, when you're ready to start recording, click the Play button (or Space Bar). Start to play straight after the 4-beat count-in with the walking boogie bass on the third line of the music. Check it if you wish by pressing the Play button to hear it play once through. Record the second track (the second line) which is the simple chord accompaniment by following the same procedure. If you foul up at any time during the recording just stop play-



Connecting Several Instruments

continued on p54

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ing and click the X-REC button at the right hand side and that track will be erased so that you can start over. If you record to the end of the track and then decide you don't like what you've just played then select 'Delete Track' from the Utilities menu and enter the track number to be erased.

Finally, record the lead line (the top line of the music) on top of the other two and have a listen to it all. Your tune should now sound like a Boogie Blues and in fact it's a good idea to Save it under that name before we go any further. This is done from the Project menu which brings up a File Requestor where you select 'Change Volume' to make the data disk in df1: the current disk then type 'Boogie Blues' in the 'File' slot and click onto 'Save' to do the job. The program will add .CUB to the name and create an icon to go with it too.

Having done all that we can go back to the song and play around with it.some more now that we've got a copy of it safely stored.

Selecting 'Play Loop' or 'Auto Record' from the Play menu will make Boogie Blues repeat endlessly, which is why I wrote the last couple of bars the way they are. 'Play Loop' does just what you'd think, ie the music keeps playing until you click the Stop button. 'Auto Record' also plays continuously but 'Record' is switched on too so that when the music goes 'back to the top' you can start playing on the synth to overlay yet another track.

Having saved the original three track version you can keep on adding to it by playing more and more tracks, up to 12 in all. If you do create a really good version and it's worth saving then save it under a new name so as to keep the original as it is. We can then do some more work with it next time.

In future sessions I plan to look at:

- Printing music with QuickScore
- Graphic Editing
- Using Internal Sounds
- Setting up Instruments and Sound Libraries etc.

Interested readers may care to drop me a line if there are specific areas of *Tiger Cub* that they wish to see explored. Also if anyone wants a data disk with the Boogie Blues file on it, along with some of the Internal Sounds that we'll be covering later, then I'd be happy to provide it for $5.00 to cover duplicating and mailing expenses.

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Selecting the best time to introduce your young child to the computer is a more complex problem than you might think.* Anne Glover *explains.

One of the foremost aspects of introducing computing to young minds is ensuring it is done in the right environment.

If your computer is currently somewhere odd, like the kitchen, think about moving your computer to a more "user friendly" location before you sit Junior down at the keyboard. Next up, you'll need a good desk.

Do I hear you saying "What desk?" If you are currently operating your computer from a general workbench or moving it on and off the dining room table, NOW is the time to invest wisely in a true computer desk. From around $100 you can purchase a reasonable two-level desk which will save many heartaches when that little person is using the computer.

Depending on the amount of space you have available, the two-level desks are probably about the best. They allow room for a monitor and a printer on the upper level, with the keyboard and disk drives on the second level within easy reach. They even generally have space for disk boxes and your ACAR magazines etc. down below.

As well as checking the size of your desk space also check the dimensions of your PC before buying your desk to ensure there is no over-hang from the keyboard. A little bit of over-hang can mean many accidents for your computer over the years.

Unless you are restricted for space, a narrow multi-level desk (PC "tree") is not the ideal since they are primarily designed for an individual to work at on their own. Your young child will often want or need someone to work with side by side. An expensive ergonomically designed chair is not a necessity. In reality, with young children driving one of those fantastic spinning varieties everyone and your computer will be in danger of being "Cowabunga-ed"!

A stable, basic chair that your child can get onto and off again without falling on his head (or worse still on your computer) is all that you need. A large cushion will boost his height in a more secure fashion than phone books, if he is tiny.

As sturdy and stable a desk and chair as possible, taking into account the child's height and reach and the dimensions of the computer, is all that you are looking for at this stage. Remember, you may sit still at the computer for hours at a time, but a young child may be up and down, around and about a dozen times in half an hour.

By the time a child can walk and talk fairly effectively, we expect him or her to have a reasonable degree of control over his or her arms and legs. However, those knees and elbows always seem to be collecting something. The reason for this is that their gross motor skills are not yet very precisely developed. Even the teenager with arms and legs growing at a fast pace will find the accuracy of their gross motor movements, at times, leave a lot to be desired. Clashes between growing children and PC's will be minimised if you look carefully at your setup before you begin.

Spending your first $100-$200 on furniture instead of software may be the best investment you could make for your peace of mind, as well as for your family's enjoyment and practical use of the computer.

Preparing yourself

Are you ready to introduce your child to the computer? A machine, that up until now, may have been exclusively your domain and dare I say it, almost as precious as your child, perhaps?

Are you ready for the times when Junior is a bit rough with the hardware or accidentally knocks the keyboard for six? For the times when s/he asks "What does this button do" after pressing it sixteen times in quick succession. Or when s/he tries to see what happens if s/he presses all the buttons at once. Are you ready for the time s/he pulls one of the cables out, apologising with "I just wanted to see where it went to"?

During these trials always remember that curiosity in children is a wonderful thing, it must be fostered at all costs, for without curiosity children would learn very little.

The point at which you decide to introduce your child to the computer, is also the point where you commit yourself to the selection and purchase of appropriate software for your child.

As outlined in last month's article you don't need to spend a fortune on children's educational software if you select your pieces carefully. Your choice of software will be influenced greatly by your reasons for introducing your child to the PC in the first place. Your priorities will probably include a combination from the list below:

(a) for educational purposes
(b) to develop computer literacy
(c) to accelerate personal development
(d) to enjoy shared activities
(e) for entertainment

The order in which you place the above priorities, should influence greatly your choice of software and the way in which you use your computer. Always keep your purpose in mind when selecting your programs.

Be prepared to give up a lot of your own computer time to the child. Initially, you will be working together. However, after a short period of time, the child may be working with a minimum of assistance and supervision. Try to remain involved to some degree, even if it is on a periodic basis, to be a part of this fascinating activity. If the PC allows us to spend "quality" time with our children and be a joyful part of their lives, we must all benefit.

What about the rest of the family?

Is the family ready for this step? Can the family budget afford any necessary furniture and the inevitable supply of software? Will other family members feel deprived because of the amount of time you will be spending with this new recruit? It is possible that they will be dis-

turbed by their reduced access to the computer, rather than by the reduction in time spent with you. Will younger children perceive an introduction to the PC for an older sibling, as an invitation to all comers? She may then feel left out, not understanding that her time will come. Being aware of potential problems is often enough to allow the instigation of subtle preventative measures.

The PC can hopefully, with a little forward planning, be used as a tool to accentuate family harmony and not to promote family discord.

What's the best age?

The age of the child and his or her level of intelligence will not necessarily be an accurate guide to the child's readiness to take advantage of the world of computers.

Personality and motivational levels will possibly provide a better guide. The child who is apprehensive towards changes in their world, may benefit by being introduced at a later date and in a more gradual fashion. However, if you have a hyperactive young person who is likely to fill the time while disks are being loaded, doing cartwheels or backward rolls too close to the computer, you may be wise to postpone your introductions for some time, to preserve your own sanity.

Ideally the child should be able to wait patiently for short periods of time (or not so short periods if Mum or Dad make a few mistakes). S/he needs to have a reasonable level of concentration. S/he should be an effective listener and be able to follow a few simple directions e.g. "move the mouse forward" or even, "stop chewing the mouse"!

It may also be considered appropriate if the child can recognise their own name on the screen and be familiar with a few numbers. The child's skills do not need to be extensively developed, as their progress will accelerate after a short time on the computer. The child's degree of interest in the PC is also significant. If the child is intensely interested, you may wish to introduce him or her to this strange new world at an earlier date than you had previously planned. If on the other hand s/he is not particularly interested there is nothing to be gained and perhaps a lot to be lost if you push him or her too far when s/he is not yet ready. The readiness of the child will be closely linked with your priorities for introducing your child to the computer. The selection of software you make will also play a role in determining his or her readiness. If you intend to only use the PC for entertainment purposes, you may start the child at an earlier date than if your purpose is purely educational. In reality, some combination of both is desired and generally achieved

As the majority of parents initially list educational purposes as one of the prime reasons for introducing their child to the PC, they are generally looking for educational software in the first instance. The young child does not need to be able to read and write to experience the delights a computer can bring. There is currently an expanding range of suitable educational software for pre-school children. The popular Fun School II series for example, in the under-6 version has four activities out of the eight which are most suitable for non-readers. As the child will grow into the other activities later, it represents good value for your dollar and possibly an effective starting point.

If your family, your child and your computer setup is ready there is no need to wait until your child is literate, articulate and numerate, just go ahead and have lots of fun.

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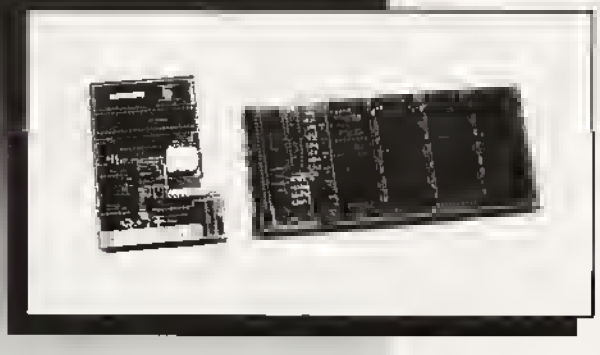

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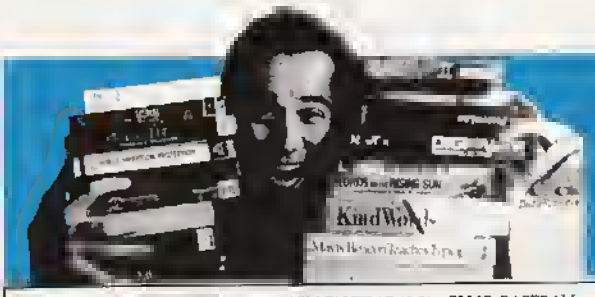

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Picture Book
by Anne Glover

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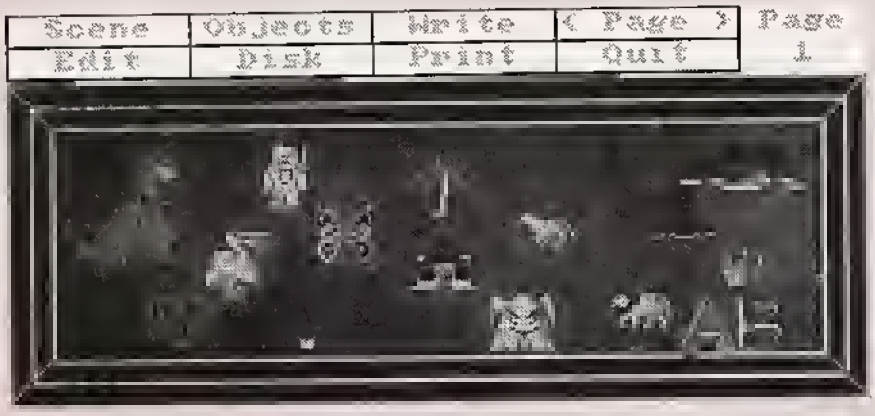
The *Picture Book* screen is divided into two windows. The top window is set aside for the picture. The lower window is for the story. The child may initially select a background scene that is appropriate for the story they have planned.

Picture Book has 22 scenes to choose from. The range includes a cave, the city and a haunted house. The child may make modifications to these scenes by utilizing an edit function, or they may even design their own background. One or more objects are then chosen to be placed in the scene to illustrate the story. The child is not restricted to just one or two objects, over a dozen can easily be placed on the scene if the child wishes.



Picture Book has over 200 objects to choose from. These include cars and planes, animals and insects, dinosaurs, the letters of the alphabet and numerals.The same object can be placed onto the screen in a number of places (to create four ducks for example). The objects can be one of two sizes-(large or small,) to illustrate family groups or indicate depth in a scene.The objects can also be changed or a child may design their own.The range of potential pictures that can be developed as a result, must be enormous. Over 200 objects that can be modified or duplicated and combined in a multitude of ways over a large range of variable backgrounds.

If you require even further variety, or if like me you find it difficult to design your own objects, Satchel have released a *Picture Book Companion* disk. The companion has over 100 new objects and eight new scenes to work with.

Story

Picture Book includes a simple but effective word processor that allows the child to type in a story at the bottom of the screen. six lines are available, allowing enough space for approximately 50 words per page. A story can be up to 20 pages long.If however, a child wishes to only write a few words, a simple click with the mouse allows the text to be centred on the line.

The program has some other useful features, such as allowing a page to be duplicated then making minor changes to the picture as the story progresses. Pages can be easily swapped around, erased and redone or deleted with the page numbers automatically renumbered.The story can of course, be saved to be enjoyed at a later date or to allow future developments.

A print function allows a reliable reproduction to be made on paper. Children often like to see the results of their work in their own hands. They can then show off their creations to Grandma or to their friends. Once it is printed, the story can be made up to resemble a "real" book and be used as one.

Picture Book is extremely easy to use. A child who can read and write will have no trouble operating this program. Even younger children will enjoy using it with your assistance.The *Picture Book Companion* is not so user friendly, it requires a lot of transferring of disks to get it up and running. The Companion disk may be useful at a later date to stimulate some renewed interest in the program, when it is a few years old.

This program helps a child to become very familiar with the PC. In completing one page of a story, the mouse and the keyboard will receive extensive use.The screen edit function is a simple drawing program in its own right. As well as free hand drawings, circles, ellipses, boxes and straight lines can be used. The mouse is used to change colours. Cut, paste, zoom, undo and fill functions are included. *Picture Book* is a program with a huge potential.

It must be mentioned that the graphic quality in *Picture Book* is not quite up to the standard that Amiga users have become used to. However children will still be very happy with the appearance of their pictures.

Picture Book is certainly a child directed program. It will be equally suitable for a child just starting to read and write as it is for one who is quite competent in these areas. The child decides what to do and how to do it, there are no wrong answers. Children should find this program stimulating and exciting, it will grow with your child and is a lot of fun to use. With a little imagination the possibilities are endless.

Applications

Picture Book is a useful program for use in the classroom or at home. Teachers and/or parents could use the program to assist children in many areas. When a child uses *Picture Book* to design stories a huge number of skills will be stimulated to develop. The program can be used in other ways. Stories could be placed on the disk to emphasise particular areas. Word groups that a child is currently studying, or having trouble with, could be used. Spelling lists could even be incorporated into the work. Possible options could even be supplied below.

Don't, however lose the child directed nature of this program by making the child jump through hoops. Children who are poorly motivated writers or who find reading a chore may gain substantially from this program. Highly motivated children will also benefit. It is fun to use and the children can immediately see the results of their work.

Some children may enjoy writing stories for younger children or for their friends. They could have fun taking turns to produce a page each, trying to keep

the thread of the story intact. Issues or problems the child is facing or soon to be facing could be the topics of stories, allowing them to think about and be prepared for a future reality.The possibilities and the benefits are limitless. This is an excellent program for primary school aged children.

Conclusion

Picture Book is easy and fun to use. It introduces the child to the keyboard as well as the mouse. It may help children develop a love for reading, writing and drawing and in the process gain a huge number of skills. It is child centred and child directed.

Picture Book is well worth buying and is good value for your money if you don't already own a similar program. *Picture Book Companion* is not essential, but may be worth buying at a later date.The prices for *Picture Book* and *Picture Book Companion* are $50 and $40 respectively. They are available in both C64 and Amiga versions and are produced and distributed by Satchel (South Australian Department of Education) phone (08) 243-5559.

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The C64 Column

by Owen James

Rescue the C64!

If you cast your mind back to my June column you'll remember me saying the 64 is not dead. This is still as true as ever, but it appears Commodore isn't all that pleased at this unkillable machine. Commodore themselves have even admitted they tried to kill the old 64 off many times, but without much success. Right now the 64 is being challenged from all sides. It has the game consoles to contend with, the more powerful Amigas to beat, and to top it all off is the lack of support from Commodore.

Looking at the situation realistically the Commodore 64 can't survive much more of this treatment. It's time for Commodore to make a definite decision about the future of our favourite machine, otherwise it will be made for them.

Commodore have made some monumental mistakes in the past. The Plus/4 computer for example. It wasn't any more powerful than a 64, had very few software releases available, yet was still trying to provide an alternative to the 64. At the time the Plus/4 was released the 64 was tagged a game computer. We all know it's more than a games machine but when a computer is labelled a 'toy' it really doesn't sell well as a serious machine. The Plus/4 was trying to be the business alternative, but good ol' Commodore did their normal trick of not giving the support it needed.

Here's another fine example of Commodore's thinking; the death of the C128. The 128 was one of the absolute best 8-bit computers on the market. It had an 80 column mode, a C64 mode, a CP/M mode and was often regarded as the thinking person's 64 (no insult intended to thinking 64 users!).

When the Amiga was released the 128 was just left to rot. No support or real marketing attempt was made. I genuinely believe the 128's demise was premature. It's quite clear that Commodore are making the fatal mistake of throwing all its eggs into one basket - the Amiga basket. My guess is that if the Amiga was to suddenly flop then so would Commodore.

Alright then. Commodore have made mistakes in the past. The 64's death doesn't have to be another one. Here's some of my own ideas for restoring people's faith in Commodore. Let's start by resurrecting the 128. First a quick name change. I think people relate to computers with names rather than numbers. Second on the list is that it must have some kind of direction. Personally I feel it would suit the business market perfectly. Business users have only one real clear-cut choice - IBM. IBM compatibles are fine, but they lack the friendliness of other computers (sort of like an Apple IIe with a charisma by-pass!). There must be thousands of small business users who are unhappy with their big, bulky, unnecessarily powerful IBMs. The 128, if marketed correctly, could easily become the business alternative. The only thing needed is software developers to take notice of the 128. If Commodore showed true enthusiasm then I think developers would too.

An education machine

At a C64 display in Auburn I attended recently was a 64 set up running educational software. I was very surprised to find that it was more popular than the music and demonstration areas put together. Kids, parents, and grand-parents took great interest in this aspect of the 64. Most of the kids that had joystick R.S.I. in the hand from constant games were now bettering their education, whether they knew it or not.

Obviously Commodore can no longer push the 64 as a games machine to compete with Nintendo, nor can it be pushed as an alternative business computer. How about THE education computer? When you think of business you think of IBM. When you think of music you think of the Atari ST (shame, Amiga, shame!) When you think of desktop video/multi-media you think of Amiga. When it comes to education, there really isn't a computer to fit the bill.

If some of the 64's education titles were revamped and upgraded the 64 could find itself back on the top of the heap. Education software shouldn't just concentrate on children either. Adult education is a relatively unexplored area. Titles like "Teach yourself Physics" could become the software kings. I see the C64 as the new education medium. Once education puts the 64's foot back into the computer world's door it wouldn't be long until new life was breathed into all the other areas such as music and games. Even if Commodore decide to officially dump the 64 the support from other sources just won't stop.

Well over seven million C64s have been sold worldwide (the world's largest selling individual model). With this many 64s in existence you can guarantee software, user group, and dealer support for a long time to come.

Tricks and Tips

Here's this months tips, tricks, and anything else that managed to squeeze in:

Bill Woolford of Narara N.S.W. has been kind enough to send me a pile of tips and tricks that he has compiled over the years. Thanks Bill.

Head alignment

After your heads have been properly aligned you should record a short BASIC program to be used as a check for future alignment. Load the tape, then type PRINT PEEK (630), ST. The screen will display two numbers. If both are zero then the head is still aligned. If either numbers are not zero then the head is not where it should be. Bill writes that you may be able to adjust the datasette head yourself by using a small phillips head screwdriver. After doing this try the tape again.

Program instructions

Instructions for programs can often be hard to find when needed. Bill writes that you should create a stand alone program (usually one screen will do) to print any important instructions to the screen, and then add a routine to chain load the original program. Add this to the original program disk, then run this routine instead of the normal program. After displaying instructions the program will automatically load and run.

Fast Line Deletion

Another of Bill's tricks is the fast deletion of program lines. Suppose you want to delete lines 100 to 190 in steps of 10. Type in this line:

```
FOR I = 100 TO 190 STEP 10:PRINT I:NEXT I
```

The line numbers 100 to 190 will appear on the screen.

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We'll be hearing more of Bill Woolford's tips next month. Bill also sent me a cassette containing some programs that he wrote himself. I would very much like to put together a disk containing programs that readers have written which could be made available to other users.

Here's the chance to show others what you can do. Send me a disk, tape, or printed listing of your program. It can be as short or as long as you like. Remember, I'm not expecting professional quality software - just the simple programs that you've written and used. Whether it be a DOS utility, a short sequential file reader, or even a subroutine you've found helpful in programs send it in. Disks and tapes will be returned.

Poor Screen Colours

Glenn Webster of Bayswater North writes that there is nothing worse than running a program that has virtually unreadable screen colours. The problem, he says, arises when you can't change the poke statements, such as in a program compiled with the BLITZ! compiler. A simple SEQ file opened at the beginning with an INPUT#2,S,B.

Glenn says that you should just need to POKE 53281,s etc, and have an option in your program to set colours, similar to the Geos preference manager.

Glenn also writes to complain at the lack of C64 support from magazines these days. Well I'm afraid that's the sad facts of life. Magazines can only write about what the majority want to hear. Your comments on repetition of material in mags such as this are justified, but keep in mind that not everyone has read all the books and magazines that you have. Like with anything, there's only a limited amount of subjects that can be covered with the 64. If you think you have some kind of revolutionary idea that could be written on then tell me about it.

Data Checker

A person wrote to me recently with a tip, and a listing to a fabulous utility she wrote for the easier entering of DATA statement lines etc. This will be included on the C64 User software compilation disk. She doesn't wish to have her name used in the column, so let's just call her Ann Ominous (very droll). Ann writes that since not all program listings have some kind of checking device implemented when using hoards of DATA statements, it can be a real pain (to put it politely) to have an ILLEGAL QUANTITY error pop up and not know where. She says to type:

PRINT PEEK (63) + PEEK (64) * 256

and the 64 will list the last line of data numbers read.

I'm hoping to do a piece on C64 user groups and what they offer in the not too distant future, so if you've got a user group that supports the 64 then I'd love to hear from you. Drop me a line care of:

ACAR,
P.O Box 288,
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Remember that, as always, I want to know about YOUR tips, tricks, comments, suggestions etc. I'll be back next month with more 64 related info, so until then keep 64ing!

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Add your own menu options to the WorkBench pull-down menu.

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A quick easy to use file copying system.

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Phil Campbell's Entertainment

All the latest news and views from the world of entertainment

Aussie Puzzle from Whites Computers

White's Computers (02) 634 6636 are distributing a nice little locally produced game called *BrainScrambler*. Written by Ron van Tilburg, with art by Sandra Smith, the aim of the game is to unscramble pieces of a picture and put them back together. There's a selection of top class IFF artwork to play with, and you can even add your own pictures. This is a game that will certainly appeal to jigsaw freaks, and you can chop your pictures up into a variety of formats, from 4 by 4 upwards. The control system is nice - all actions are carried out with the mouse. Incomplete puzzles can be saved for later if your brain is getting too scrambled. A nice little local product, and well worth the $32 recommended retail price.

Prince of Persia in Amiga format at last

One of the best IBM games this year is *Prince of Persia* from Dataflow. Now the Amiga version is available, and it's nicely enhanced. Rescue the beautiful princess before she's forced to marry the wicked Grand Vizier! Top game - watch for it soon.

Wrath of the Demon out now

Wrath of the Demon is a new game from Questor which combines state of the art multi-level parallax scrolling with spectacular graphics, animation and playability to bring you one of this years hottest graphic adventures. What a mouthful!

Produced by Readysoft, makers of *Dragon's Lair* and *Space Ace*, *Wrath of the Demon* features 13 sections with over 550 screens full of action, 100 monsters, more than 100 colours on screen at once, and an incredible frame rate of 60 frames per second. There's stereo sound - up to 140k of music and sound effects for each scene, and the graphics are wonderful, with animated monsters filling up to half the screen. The demo looks great!

Mindscape Thunderstrike Competition winners

Lot's of entries for September's *Thunderstrike* Competition. Hard, wasn't it? After all, you had to actually write your name and address on an envelope. Bad luck to Laetone Gravolin, who sent in the most entries, but didn't make it through the draw! Better luck next time. So here are the three lucky winners:

James **Gordon** of Singleton

Yokeching Chan of Bellevue Hill

Chris Wootton of Mornington Heights, Tas.

Well done guys. Your prizes should be there by the time you read this.

Thanks to Mindscape for the prizes.

New AMOS newsletter

If you've bought your copy of AMOS, the new game creation language, then you really should join the AUSSIE AMOS CLUB. There's a top class newsletter produced by club president Neil Miller - all done on the Amiga, of course! The latest newsletter has details of the AMOS "Abilities Register," a database that will put programmers in touch with computer artists and musicians. There's plenty of other good stuff too! For more information contact Neil Miller, PO Box 253, Rydalmere NSW 2116.

Mindscape Competition Of The Month

$700 worth of prizes to be won!

Yes, folks - we've got an amazing 10 copies of THE KILLING GAME SHOW to give away! It's one of the best Amiga games yet from Psygnosis, and you've got the chance to win your very own copy. What have you got to do? Simple. In keeping with the "game show" theme, write the names of all the hostesses from *Sale of the Century* and *Great Temptation* in the correct chronological order on the back of an envelope. The first 10 correct entries drawn at random will win their very own copy of *The Killing Game Show*, valued at $69.95. OK, so there are only $699.50 worth of prizes. Close enough!

Clearly mark your envelope "NOVEMBER COMPETITION", and send it to Phil Campbell, PO BOX 23, Maclean NSW 2463 by November 30th 1990. You can also fax your entries on 066 452 060.

Amiga Tips

Dogs of War

Andrew "Turrican" Strika says if you're stuck, type TIMBO F5 for unlimited lives.

Action replay goodies

The Amiga Action Replay cartridge has only just hit the streets, and the tips are rolling in already. Try some of these, courtesy of Jason Strudwick of Junee, NSW :

Xenon II - Change memory location CCB to value FF for infinite lives, and change memory location CCD to values between 00 and 09 to change scrolling speed.

Rick Dangerous - Change locations 44972, 4496e and 44970 to values below 50 to change lives, bullets and dynamite settings.

Rainbow Islands - Change E6D3 to 0F for infinite lives.

C64 Hints.

Here are some golden oldies - sorry, we've lost the names of the sender-inerers. If you sent any of these, pat yourself on the back and give yourself a nice warm feeling. By the way, C64 freaks, look out soon for a special hint section just for you!

Robocop

Hold down F,G,H,J and move the joystick in the direction you are facing. If you are facing right hold down the keys while pushing right. This moves you to the top of the screen where you can't get hit by bullets.

New Zealand Story

Hold down TRY CHEATING keys (including space bar). The border should turn grey. Now you have infinite lives and the ability to skip levels by pressing CTRL and left arrow key. You still have to fight off the end of level guardians. When fighting the last bad guy (the seal) try and get behind him where he can't shoot you by passing through him when he's not firing. When you're behind him shoot the balloon on his head lots of times.

Gemini Wing

On the title screen press P and enter any of these passwords to start at the respective round.

Round 1 - COKECANS
Round 2 - MR.WIMPY
Round 3 - CLASSICS
Round 4 - WHIZZKID
Round 5 - GUNSHOTS
Round 6 - DOODGUYZ
Round 7 - D.GIBSON

Platoon

In the tunnel section when it says to go to side B and press fire just press without turning the disk over and it loads the jungle section.

ENTERTAINMENT LETTERS

Letters about all sorts of things this month, with plenty of readers using our new fax-a-letter service. Remember, entertainment letters only to **Phil Campbell, PO BOX 23 Maclean NSW 2463**, or fax 066 452060. Get writing!

Competition Complaint

Dear Phil,

I will start off with a complaint about the August issue competition. The entries closed 20th August, and that's when I got my mag. Could you please give us over in WA a bit of a chance?

Thanks for the great review of Wings of Fury. I just popped down to the computer store and bought a copy - it's very addictive. I also want to congratulate you on bringing percentages into your reviews.

Yours sincerely,

Andrew "Turrican" Strika

Ed: Sorry about the early closing dates! The problem is that if we don't close by around the 20th of the month we miss the deadline for the next issue, and that means the winners will have to wait another month for the results. However, your plea will be heeded, and we'll extend our competition closing dates so everyone has a chance to enter.

F-29 off target

Dear Phil,

I have been collecting ACAR since August 1989 (not long, I know) and the standard of your section has risen 100 fold. You have stopped that nasty constancy of earlier times of giving all games good reviews. Quickshots is an excellent idea.

One problem - I recently purchased *F-29 Retaliator*, but I found the air to air missiles had a habit of missing their targets. This is alright on lower levels, but with limited ammo it becomes extremely annoying. I have had the game for a long time now and I am a veteran of flight sims. I heard about a bad batch of F-29s going around. Could that be the problem?

Andrew Cumpston,
East Malvern Vic

Ed: Thanks for your comments. I'm glad you think we're improving.

One reason most of the reviews you read are fairly positive is that we haven't got space to review all the rubbish that's going round. In other words, most of the time we choose to review the best software rather than the worst. And obviously, most suppliers don't bother sending us their "dogs." Your problem with F-29, disks from the faulty batch flash a message in the top left corner of the screen asking you to "insert the original disk", and only short flights are possible. Clearly, that's not the problem. Can other readers help?

Mapped out

Dear Phil,

You said not to send in maps because you couldn't reproduce them in the magazine. How about making copies available on request, similar to the free hint sheets in the Adventurers Realm section. Secondly, how about keeping the hall of fame strictly for scores - no cheats, pokes or cartridge aided scores?

David Marsh
Mt Druitt NSW

Ed: Michael Spiteri's Free Hint Sheets are a remarkable service to Adventurers. They take up a heap of time, and cost quite a lot to produce - all of which Michael does out of the goodness of his heart. Bad luck. I'm not nearly that nice. Seriously, though, we really haven't got time to keep track of that sort of thing. Maybe if we could just get another secretary or two ... ? As for the high scores, you're absolutely right. Anyone who has sent in high scores gained using cheat modes or pokes has defeated the purpose of the Hall of Fame. After all, what's clever about cheating? So here's an appeal to all high scorers. Be honest. OK?

Hopeful six year old

Dear Phil,

My six year old son is the sole user of the Amiga, mainly because I can't get anywhere near it while he is on it. He loves it and I am about to make it worse for myself. Recently he borrowed a game called *Giana Sisters* and he loved it. My problem is, I can't find anyone who stocks it, or is able to supply it. Can anyone help?

Yours truly,
R. Mundy, Melton, Vic

Ed: It's quite a while since *The Great Giana Sisters* were a hot item. Maybe a reader will be happy to part with an old copy - genuine, of course. Write to Mr Mundy at PO Box 585, Melton, Vic, 3337, if you can help.

Hall of Fame

AMIGA

ARKANOID	976,548	Kami. Andy
BATTLE SQUADRON	99,999,999	Amos Burbidge
BLOCKOUT	36,455	David Marsh
BOMBJACK	200,680	David Thompson
BUBBLE BOBBLE	1,200,460	V. v d Heyden
BUGGY BOY	103,350	David Thompson
CHASE HQ	4,851,590	Juris Graney
CONT. CIRCUS	4,529,690	Amos Burbidge
CRAZY CARS	84,006,720	Bill Horsley
CRYSTAL HAMMER	43,847	David Thompson
CYBERBALL	475,000	David Marsh
DENARIS	53,900	Peter Evans
DRAGON NINJA	204,880	Matthew Mantle
DOUBLE DRAGON	124,630	James Knight
ELIMINATOR	246,570	Greg Munro
GEE BEE AIR RALLY	307,466	Kamikaze Andy
HYBRIS	1,618,452	Matthew Mantle
IMPOSSIBLE MISS.	66,380	Diane Unwin
INDIANA JONES	completed	Phillip Nicol
ISS	1,420,450	A G Smyth
KARATE KID II	52,000	Robert Dunn
LEATHERNECK	83,300	Owen Webster
MAJOR MOTION	50,658	Owen Webster
MENACE	996,481	Kami. Andy
MINDWALKER	306,214	P Schumacher
MOUSETRAP	64,817	Matthew Mantle
OPERATION WOLF	344,800	John Boyle
OUTRUN	11,102,200	Brad Stewart
OFFSHORE WARRIOR	626,345	Jacob Booth
PACMANIA	3,250,140(c)	Amos Burbidge
PINBALL MAGIC	332,390	Tracey Chilcott
PIONEER PLAGUE	35,412	Keir Sooby
PLUTOS	129,450	David Rich
POPULOUS	201,600	Nathan Allen
POW	612,865	David Thompson
RAMPAGE	111,600	Kamikaze Andy
SIDEWINDER	811,250(c)	Amos Burbidge
SILKWORM (Heli)	1,186,000	Angelo Augostis
SILKWORM (Jeep)	515,100	Andrew Barker
SKWEEK	715,940	Stephen Lander
SPACE ACE	22,140	Neville Clarke
SPEEDBALL	17,650	Amos Burbidge
STARWARS	5,722,822	Chris Mingos
STRIDER	113,950	Kamikaze Andy
SUPER CARS	13 races	David Marsh
SUPER HANG-ON	25,042,850	David Worthy
SWORD OF SODAN	364,750	Kamikaze Andy
T..M.N.TURTLES	287,300(c)	David Rich
TEST DRIVE	112,915	Wayne Haesler
TEST DRIVE 2	307,910	Amos Burbidge
TETRIS	10,101	Cheryl Marsh
TETRIX	Level 103	Sally Pollock
TURBO OUTRUN	100,260,819	Matthew Mantle
TV-SPORTS F.B.	189-0	David McKinney
TYPHOON	54,255	Owen Webster
VIRUS	7,131	Amos Burbidge
WHIRLIGIG	28,210	Nathan Allen
XENON II	1,007,830	Kamikaze Andy
ZOOM	58,903	Sally Pollock

COMMODORE 64

BATMAN	330,920	Simon Watford
BANGKOK KNIGHTS	36,800	Nick Van Heeswyk
BOMB JACK	344,560	J Jacobs
BUBBLE BOBBLE	1,009,857	Kishore Ludbey
BUGGY BOY	118,750	Paul Millward
CHASE HQ	9,220,121(c)	ICEMAN
DOUBLE DRAGON	22,840	Joshua Smith
DOUBLE DRAGON II	255,190	Nick van Heeswyk
FAST BREAK	136 to 9	Chris Byrne
GIANA SISTERS	81,981	Russell ONeill
GRYZOR	203,900	Paul Millward
HAND. MARAOONA	Nick Van Heeswyk	
HAWKEYE	59,000	Nick van Heeswyk
IKARI WARRIORS	267,800(c)	Iceman
INT. KARATE	139,300	Paul Millward
LAST NINJA II	34.2 sec	Nick Van Heeswyk
OPERATION WOLF	168,789	Kishore Ludbey
OUTRUN	6,438,787	Kishore Ludbey
PAPERBOY	19,750	Royston Diaz
QUE-DEX	639	Chris Byrne
R-TYPE	684,200	Nick van Heeswyk
ROBOCOP	82,250	Tim Lockwood
ROLLING THUNDER	222,740	Iceman
SALAMANDER	235,300	Paul Millward
STREET FIGHTER	127,050	Chris Byrne
SUPER CYCLE	212,210	Iceman
TEST DRIVE	24,790	Jason Denham
THUNDERBLADE	1,734,040	Troy Morrison
THUNDERCATS	37,500	Chris Byrne
TARGET RENEGADE	330,450	Chris Byrne
UNTOUCHABLES	70,230	Simon Watford
WONDER BOY	237,650	Kishore Ludbey

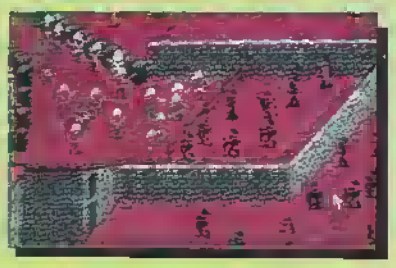
Scores followed by (c) indicate that the game has been completed.

RORKE'S DRIFT

ANDREW PHANG ***finds himself in a no-win situation as he battle for survival, read on ...***

Remember "Zulu", the movie with the famous battle scenes between the South African Zulus and the British? The movie was based on actual events in South Africa in 1879, where a small command of British troops faced the wrath of the Zulu warriors. Since Michael Caine is on holiday, it's up to you to assume the role of the British Commander and take charge over the defence of *Rorke's Drift*. Are your men up to the task, old chap?

Rorke's Drift is a very playable little effort from Plato, the strategy branch of Impressions, a fairly new software company based in England. First off, the graphics are polished and nicely animated, with 80 frames depicting each of the 137 soldiers kneeling, running, standing, or fighting in any of the eight compass directions. In fact, the soldiers and the Zulus look very cute on my computer screen, which is unusual given the nature of this game. Unusual but enjoyable, as each battle (especially hand to hand combat) is entertaining in itself. I did find it difficult, however, to order my troops to open fire on a group of Zulus that looked like multiple clones of Lenny Henry.



The interface used in *Rorke's Drift* also deserves some mention, as every move is executed using easy-to-learn icon control. If you want your soldier to move to a certain field position, simply click on the soldier's "move" icon, then click on the chosen location. Similarly, click on the "fire" icon and your soldier will unload a volley of bullets at the unfortunate Zulu.

Besides icons that control the actions of your troops, there is also a Red Cross icon (which displays the number of dead, wounded, and able soldiers on each side), a Clock icon (which speeds up play), and a Map icon (which naturally displays an overhead view of the Drift).

A very useful feature in the game is the "repeat order" command. As you have to take control of all 137 individual troops in your regiment, making decisions for each and every individual soldier can be a very tiring task. With the "repeat order" command, all you have to do is decide on the actions of one soldier, then use "repeat" to program other soldiers with the same instructions.

With odds of 40 to 1 against your pitiful British forces, the best possible result you can hope to achieve is survival. Indeed, after the game starts with the clock at 4:30 PM on January 22, 1879, you have exactly one hour (game time) to prepare the defence of the Drift and move your soldiers to their positions before the Zulus launch their attack. If your troops manage to hold out until the next morning, then reinforcements arrive and you've won the game. If not, be prepared to be skewered, seasoned, and roasted on a Zulu barbie.

The designer of *Rorke's Drift*, Edward Grabowski, has obviously put a lot of thought and effort into this game. There are several different classes of soldiers, from privates to sergeants to medics. Each of these classes have different abilities, for example a private is skilled in fighting while a quartermaster's task is to fill the ammunition bags of the troops. Further testimony to the designer's research is the choice of playing the game with the enemy Zulus adopting the exact battle tactics used by the real Zulus in 1879. Of course, you might decide to allow the Zulus a better fighting chance by choosing the "random attack" option. After all, they did lose to the Brits in the end.

Rorke's Drift is a game that requires you to have several hours to spare, as you will become engrossed with the different options and tactics available to your troops. It is very much a tabletop wargame, with pixels replacing the "cowboys and Indians" figurines usually used in such games. It may be cute, that is because, besides all of the tactics and strategy, *Rorke's Drift* is meant to be a fun experience.

The game is a exercise in tactics to be enjoyed by those who are dedicated strategy fans, and those who are just looking for an enjoyable game.

Pactronics

Distributed by:

(02) 748 4700

RRP: Amiga $59.95

Ratings:

Graphics:	82%
Sound/Music:	70%
Gameplay:	81%
Value:	82%
Overall:	**81%**

PLATO

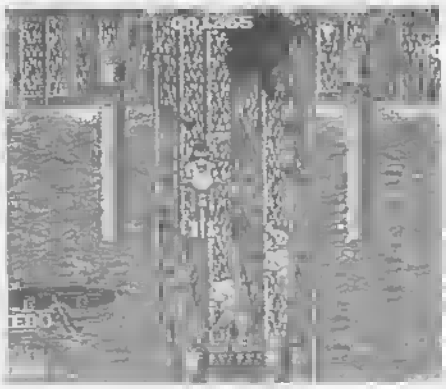
IMPRESSIONS

Skidz

by Juris Graney

If you've ever wanted to clean up the streets of America, now's your chance. Well, maybe it hasn't been one of your burning ambitions - but if you're riding a BMX or skateboard, it might just be fun.

Skidz is a hot new game from Gremlin, and that's what it's all about. There are seven levels to complete. The screen displays a view from diagonally above the player, so you can see the top of your head but still see the bike. The first level puts you on the streets - then there's the park, a building site, china town, the canal, the boardwalk and last but not least a race. There's also a shop where you can buy goodies to improve your bike or skateboard.



In each of these levels you have to collect food like fruit, hamburgers, chocolate, cakes, and ice-cream to keep your energy up, or you'll die. Sounds like my kind of diet! There are hidden bonuses dotted around the levels, giving you extra points, time or energy, and there's a special task associated with each level. The task item must be collected and delivered to the correct destination further down the level. Points are awarded when

these items are delivered. The items you can collect are parcels, fish food, newspaper, chopsticks, tub of maggots and bucket and spade. And of course, you also have to collect rubbish and place it in the bins. You can't finish a level if you haven't got 75% of the rubbish that has passed you. This isn't so hard to do, so don't sweat. The hard bit is putting the stuff in the bins without crashing.

This might all sound very complicated - because it is! And there's more. Watch out for pigeons, cats, dogs, workmen in manholes, drunks, soccer balls, rabbits, and muggers, just to name a few. If you crash into anything your energy level goes down.

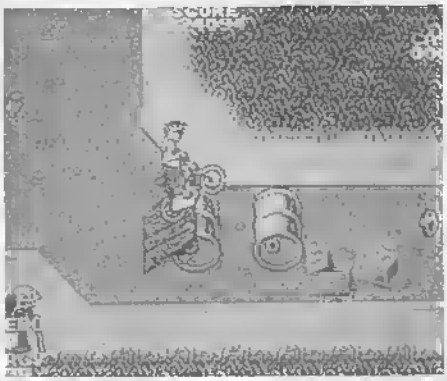
A game would not be complete without stunts that you can perform. Each time you do a stunt you are awarded money that you can use in the shops. There's also money scattered along the track. The last stage is the best - the race. In the race you see yourself and a competitor next to you. This is hot fun! First you have to watch out for tyres and speed bumps - you can only jump over them if you've got enough speed. You can take a number of short cuts, but some lead to traps. When you finish the race the computer will tell you your placing and then it is off to the main menu again.

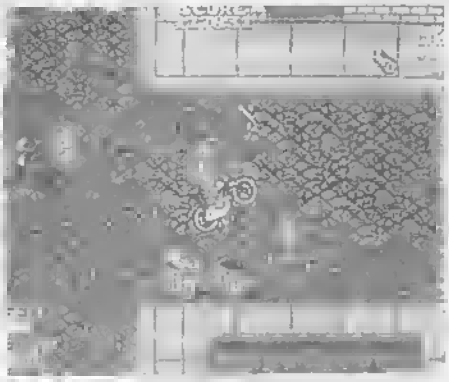
Skidz is a game I really enjoyed. My only complaint is that it's a bit slow to load. But the graphics are great, the scrolling is smooth, and the sound track is the hottest thing I've heard on my computer for a long time. Great work, Gremlin!

Distributed by:
Mindscape
(02) 899 2277
RRP: Amiga $ 59.95

Ratings

Graphics:	81%
Sound :	85%
Gameplay:	79%
Overall :	**82%**





MINDSCAPE INT

GREMLIN

Are you just dying to be on TV? Well here's your chance. Yes, it's 21st century entertainment as **PHIL CAMPBELL** *reports on ...*

Distributed by:
Mindscape
(02) 899 2277
RRP: Amiga $69.95

The year is 2015, and Tony Barber has just retired as host of Sale of the Century. The show's 35 year run was a record, though ratings admittedly dropped in the last fifteen years or so. Alyce might have looked okay in those mini-skirts and fishnet stockings back in the '90s. But not now. Besides, viewers these days seem to like a bit more violence. Most people watch *The Killing Game Show* instead.

The rules are simple. Fight for survival, and first prize is your life. It's exciting stuff, and great viewing - especially if you've got one of those new 3-D holovision sets. So put your feet up, switch on the HV and relax for a while.

As you'd expect, contestants rarely volunteer for *The Killing Game Show*. It's more a matter of conscripting them. Usually they're crims brought in by the Police Corporation, lawbreakers and dissidents who deserve everything they get. Before the game they're surgically implanted in an armoured bio-mech unit to give them a fighting chance - then they're lowered into the pit.

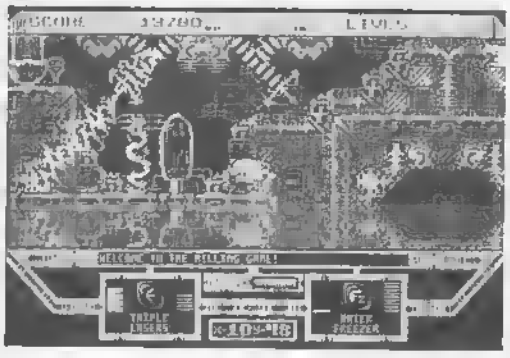
The pit. Bristling with cameras to catch all the action, and swarming with artificial life forms that are specifically designed to kill. The pit is gradually filling with a deadly liquid, so the contestant is forced to battle onwards and upwards, jumping from ledge to ledge as he fends of waves of attacking insectoids.

The Amiga version of *The Killing Game Show* has just been released by Psygnosis, one of Britain's leading software houses. Their titles have been coming thick and fast, and they're getting better. Until fairly recently, Psygnosis have had a reputation for producing technically excellent games with brilliant Roger Dean-inspired graphics - all they lacked was decent gameplay. That's all changed. *The Killing Game Show* is fast, slick and compelling. The technical polish is still there, the graphics are still top class - and above all, the game is fun.

A brilliantly animated five minute opening sequence fills one complete disk in the two disk set. It's certainly atmospheric, though I suspect by next week I'll be wishing I didn't have to sit through it every time I boot the game. The credits roll, the show begins, and I'm at the bottom of the pit. In my biomech armour I'm unrecognisable - I look like a cross between a frog and a tractor, which my wife says is a definite improvement. The pool of glistening slime is rising fast. I move to the right, my biomech legs working in an ambling, spring-like gait. A bit of extra bounce and I'm on the ledge above. Suddenly, I'm under attack by a wave of flying nasties. My built in weapons reduce them to fragments, but not before they cause some minor damage.

Graphics in *The Killing Game Show* are highly detailed. Animation is nice. And the sound track is brilliant. I've just hooked my Amiga up to my old hi-fi system and the effect is sensational. The music is fast paced and tense, and the optional sound effects add realism and drama.

Psygnosis have certainly got it right this time. *The Killing Game Show* is a top class effort, and I highly recommend it. ❑



Ratings:

Graphics:	85%
Sound :	94%
Gameplay:	81%
Overall :	**87%**

QUICKSHOTS

A quick look at what's new in the world of Games

STREET ROD

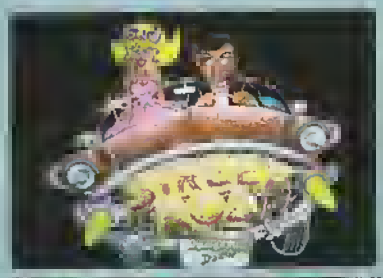
Street Rod is a car racing game with a difference - and loads of atmosphere as well. It's set in the days when cars were really cars and milkbars were really milkbars. First you'll have to buy your car - look through the classified ads in the newspaper on the screen. Then get to work in the body-shop - maybe a new paint job in something tasteful like hot pink. Then it's out with the engine. A workshop screen lets you pull it to pieces, make timing adjustments and add high performance parts.

Then it's off to the race track. A cruise down the main street to show off your wheels will always result in a challenge - and usually there's a little wager on the side.

The race sequences are difficult, and you only get one chance. Crash your car and it's back to the body repair shop. Not only that, your bank balance drops alarmingly. You can use Joystick or mouse controls - I'm still not sure which I like best, but I suspect the joystick gives the best "feel".

Graphics are very nice, music is atmospheric - all in all, *Street Rod* is a hot new game. *Street Rod* is distributed by ECP, with a recommended retail price of: Amiga $49.95. C64 $39.95

Ratings
Graphics 85%
Sound 81%
Gameplay 80%
Overall 82%



OPERATION STEALTH

First there was Cinemaware. Then there was Cinematique. I guess it's the French version of the same idea - and the idea is a good one. Games that play like movies. The cinema experience on your home computer. The chance to put yourself in the movies, just like the girl in the Twisties ad. Not only does the plot come to life, but you actually control it. *Operation Stealth* is the second game in the Cinematique series, and it's nicely done.

You play the part of a top class spy, sort of a 007 clone with a lot more class. Well, when I'm playing the part, anyway. Your task is a difficult one - an F-19 Stealth Bomber has been stolen by a two-bit South American republic, and you've got to get it back.

As the game begins, you find yourself arriving at the airport. A customs official stands at the gate. It was here that I ran into my first difficulty - it took me an hour to work out how to use the passport in my briefcase. When I finally presented it, I was arrested for being an Americano. Mmm - should have used the forging machine under the false lid to create a British passport first! Easy to say now - but again, it took another hour or so to work it all out.

If you're a keen adventurer, *Operation Stealth* is a game you'll love. The graphics are bright and atmospheric, and everything happens in real-time. It's what you'd call an "arcade adventure" with elements of both game styles. Sound effects are top class - amazing what the digitised sound of footsteps can add to the realism of a small figure walking across the screen!

I've still got a long way to go, but so far I've only got one complaint. Why do games like this make me feel like an idiot? Distributed by OZISOFT, *Operation Stealth* has a recommended retail price of $59.95.

Ratings
Graphics 80%
Sound 86%
Gameplay 74%
Overall 79%

Katie's Farm & McGee

What sort of game would delight a two year old and fascinate a five year old? A game like *Katie's Farm*. Or *McGee*. Both have just been released by Dataflow in their "No Words" series for pre-schoolers. All you need to do is look at the pictures and click with the mouse - easy, and if you're the right age it's a lot of fun too. McGee lives in a house. He wakes up early, and has fun exploring the house. He can bounce his ball, ride his hobby horse, make a phone call and annoy his mum - all he's waiting for is somebody to tell him what to do. The brightly coloured screen shows the current room; a set of smaller pictures along the bottom of the screen are the control points. In his bedroom, there are four actions to choose from - each picture represents a small part of the main display. Theres a puppet, a ball, the hobby horse and a door. Clicking on each sets off an animated sequence complete with full digitised sound. You'll hear the door creak, the ball bounce, the cat meow - you can even flush the toilet.

Katies Farm is built around an identical structure - the graphics and sounds have been changed, so this time your pre-schooler can find out about life on the farm.

McGee and *Katies Farm* are designed to familiarise kids with computers. They certainly work - they're simple to use and beautifully presented. My kids love them both. But beware. They don't come cheap, and there's not a lot of depth. I would have liked a bit more freedom to explore, with a few more rooms and gadgets to play with. Even so, these games are a top class example of what kid's software should be like. Distributed by DATAFLOW, *Katie's Farm* and *McGee* have a recommended retail price of $69.95.

Ratings
Graphics: 83%
Sound: 88%
Gameplay: 80%
Value: 69%
Overall: 80%

Shadow of the Beast II

You've played the prequel. You've worn out the T-Shirt. What now? Yes folks, it's *Shadow of the Beast II*, follow up to one of the most popular Amiga games ever released.

I'll be honest. I didn't really like *Beast I*. Somehow I just couldn't see the point of waiting for two or three minutes every time I wanted to restart the game - and that was often, because I got wiped out regularly. Naturally, there were good reasons for the games sluggish performance - like the huge hunks of data being dragged off the disk to produce those delicious graphics. *Beast II* is more of the same, though a conscious effort has been made to speed things up.

The story is simple. After *Beast I*, you turned back into a regular guy. But now some creepy wizard-dude has kidnapped your baby sister from her cot. You get to see it all in the blood chilling opening sequence - the best game intro I've ever seen.

Now it's just a matter of strolling across the parallax-scrolling landscape, fighting off all sorts of horrors and saving kid sister. Not so easy - I'm still spending more time between games than actually playing.

Graphics and sound effects set new standards - the music track is amazing, with raunchy lead guitar riffs and a pulsing beat. And guess what. There's even a new T-shirt. Distributed by MINDSCAPE, the recommended price of *Beast II* is $79.95.

Ratings
Graphics 86%
Sounds 87%
Gameplay 77%
Tee shirt 78%
Overall 83%

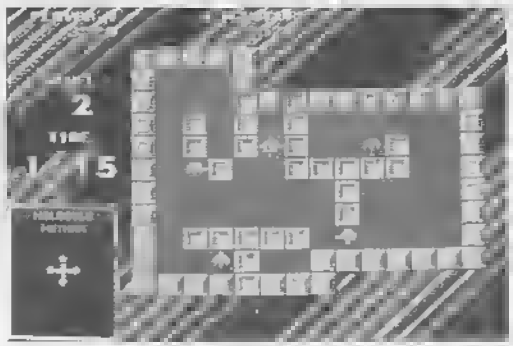
PHIL CAMPBELL *reports on a game that could make chemistry fun. An impossible claim? Read on to explore the puzzling world of ...*

ATOMIX

Chemistry was never my best subject. I still break into a cold sweat whenever I think about Chemistry 1A - the low point of my University career. Atoms, molecules, entropy and enthalpy were just too much for my addled brain to handle. In a word, chemistry and I just never hit it off.

But I'm willing to let bygones be bygones. Chemistry has just become fun. Thanks to *Atomix*, a neat new game with an educational twist, I've been rehabilitated.

Before you pick up your hat and go home, it's not as fearsomely intellectual as it sounds. The aim of the game is simple. Your screen displays a simple maze. Scattered around it are atoms, colour coded and marked with their chemical symbols. Each atom has a number of protruding links representing its valency, or potential combining power. All you have to do is link them up to match a small diagram at the side of the screen.



Take water, for example. An oxygen atom joined with two hydrogens, H2O - the extent of my prior chemical knowledge, except for K9P, which stains dreadfully if it gets on your trousers. Scattered around the level one maze are two hydrogen atoms, each with a single link, and one big red oxygen atom, with a link jutting from either side. A quick mouse click on a Hydrogen atom sends it sailing across the screen until it hits a barrier - the far wall of the maze. From there, I need to move it down through a narrow gap, then along to link with the oxygen. Not so easy. Because like anything else, these objects remain at rest or continue to move unless acted upon by an outside force. In other words, you can't just put them where you want them - you have to bounce them from wall to wall until they're in exactly the place you want. And with a sixty second time limit, its hard!

Faced with this seemingly impossible task, I did the only thing I could. And naturally, Mrs Campbell solved the conundrum in moments. A few deft flicks, and there it was - a water molecule.

Ethane and methanol are next into the test tube. Hydrocarbons. That was in Chemistry 1B, which was not compulsory. Until now, a dark mystery ... but now I even know how to make them. Up and down, round and round - in fact, the more atoms the merrier, because they give you more staging points for bouncing your bits and pieces.

I'm starting to feel quite educated. Three hydrogens, a carbon, an oxygen and another little hydrogen wagging like a dog's tail. Methanol. Two carbons with a double link with double hydrogen antennae on each end - ethane. Or something like that, anyway.

Atomix is a game that doesn't rely on flash graphics and sound effects. But it's got them anyway. The graphics are neat - a nice title screen featuring an endorsement from Einstein himself, crisp playscreens, solid looking coloured spheres for atoms. Simple, but elegant. Sound effects are simple too, limited to sliding noises and clunks - nothing fancy, but it's all you need.

If you like a good puzzle, I can recommend *Atomix*. And if you're struggling to learn pages of molecular formulae, this could be the perfect way to re-enforce your studies. ❑

Ratings:

Graphics	75%
Sound	75%
Gameplay	81%
Overall	**77%**

Disfributed by:

Pactronics

(02) 748 4700

RRP: **Amiga** $49.95
C64 $39.95
IBM $54.95

GRANDSLAM

THALION

Rev-head **PETER CHRISTOPHER** *has some fun on the racing circuit with*

COMBO RACER

OK gang, put on the leather cos we're taking a ride on the wild side. Make sure the boots are on and the gloves fit tight. Put on the full face helmet and get on that mean, mean bike. Turn the key, rev up the motor, watch the starting lights and get ready to join the international glamour bike racing circuit. Oh, and don't forget your partner. That's right, partner! This is sidecar racing - the harum-scarum sport where it's not just you who needs to be well-balanced, but your partner as well. Some might say you'd have to be off balance to take up this death defying sport.

Welcome to the mad, mad, mad world of *Combo Racer*. You're at the start of the racing season. First select a track - there are eight set up and an infinite number to design yourself (but more about that bonus later). It might be the US Grand Prix in the Nevada desert, a fairly straightforward, fast track you can take on without coming down below fourth gear. Or you might pick a long and winding European track where it's difficult at first to get out of third. The choice is yours. You also decide whether you want the computer to ride in the sidecar or whether you want a human friend to ride with you. If you pick a human, he or she will work from two keys on the keyboard, throwing the daredevil passenger from right to left while you take hairpin bends on the joystick.

Be warned. This is one finely tuned game and believe it or not a slow responding sidecar rider can throw you right off the track - face first into a cactus on the desert track (ouch) or into a billboard on a city-based track.

Combo Racer is an intelligent and sophisticated game. The detail, from the scenery and instrument panel to the authentic sound, is exciting to say the least. But so are the track designs and the quirky features of each one, like bumps which when taken too fast send you soaring into the air, motor revving furiously and bike totally out of control. If it happens on a straight, that's fine - but on a bend ... crrashhhh!

A small map at the top of the screen displays the course you're racing on and your position on the track. You're the only red dot in a field of 16. Your place in the field, your time and lap counter are shown too. Up until now you could almost say that *Combo Racer* was nothing more than a miniature arcade game. But

its true appeal lies in the number of options available - and the track design feature adds that creative twist which will excite most players. You can have a relatively straight track, a track full of curves and yet another full of bumps. Design it as long or as short as you like. What about tunnels? Well, just slot them in where you like. Then pick from a selection of scenes - desertscapes, cityscapes

or mountainscapes. You can even have snow. It's this feature - and the ability to have a human sidecar passenger - which makes *Combo Racer* unique. Now the only remaining question is what happens when you crash? The programmers have cleverly allowed for such a disaster by deducting a small percentage of motor power every time you come off.

Some of the incredible details of the game include the flying grass clippings when you venture off the bitumen, and the hilarious response of the sidecar rider when you scrape his rear end or helmet on the side of a tunnel wall. The kids think it's terrific.

Combo Racer offers lots of fun. You can keep a record of your races and how you're going against other friends and you can come back to it when and where you like. A good game all round. ❑

Distributed by:
Mindscape
(02) 899 2277
RRP: Amiga $59.95

Ratings:	
Graphics:	75%
Sound:	90%
Playability:	80%
Addictiveness:	90%
Overall:	**80%**

UNREAL

Is this the best Amiga shoot-em-up ever? Some people think so. Read on for **STEVE PIKE'S** *assessment ...*

Arabatan, and his lovely wife, Isolde, live near the Great Lake, which forms the boundary to the Land of Nothingness. One day while out walking, they befriended a dragon named Dracus. Isolde was enchanted with him, and he visited everyday. However, one day he did not show, and stayed away for three days. During that time, Isolde stayed waiting on the hill for him, and it was then that she was taken by the Master of Darkness, Polymorphe.

He was mesmerised by her beauty and declared he would marry her on Mortenis Day, not long off. If she refused, he would kill all the people in her valley. Isolde was not keen on the idea because she was already married, and also because Polymorphe's face was a ball of fire. So it's good ol' Arabatan to the rescue, riding on the back of Dracus. That's you, by the way - Arabatan.

We're playing *Unreal*, a fantasy arcade game with eight levels, five in 3D. While trying to save Isolde from Polymorphe, you will be faced with diverse tests of strength and logic. Logic must be emphasised, because there are times when you seem unable to go any further. A careful look around will help unravel the clue to advancing. The program has a save game option and this can be used before experimenting, to reduce the headache of playing back to where you were.

Another interesting feature is *training mode*. When you are dead, you automatically enter this mode to practice the game from where you died, without adding to your score. It gives you a chance to see what's coming up and how to get around it, without worrying about losing or wasting lives.The first part of your quest sees you aboard Dracus, collecting crystals for bonuses. The type of bonus you get will be shown on the screen. In collecting the crystals, you must dodge trees, hills and huge dinosaurs. If you think dodging is wimpy, be gung-ho and blast a path. Shooting dinosaurs gives your score a boost, and clears the way. Your energy is determined by a points value. During this screen, your energy points are shown, but your score is not. Danger and warning signals are also shown on the screen for your benefit, resulting in your eyes trying to look at 20 things at once. To make matters worse, Dracus will only go one speed - fast!! So, don't blink, you'll miss it, or worse, hit it.

Graphics in *Unreal* are very good. There are nice touches like revolving moons and multi-level backgrounds. Programmers have used a number of different screen resolutions - high res for the title screen, chunky for the ultra fast bits and standard for the horizontally scrolling sections. Implementation of sound is excellent. If you turned off your lights and the picture, and turned up the sound, you WILL think you are outside on a summer's night, with crickets doing their thing, a fire crackling and the owls in the trees getting in on the act.

As the saying goes: don't judge a book by its cover, but as for this computer game, its a good indication.....UNREAL! ❑

Distributed by:

(02) 662 7944

RRP: Amiga $59.95

Ratings:	
Graphics	85%
Music	83%
Sound FX	98%
Gameplay	89%
Overall:	**88%**

UBI SOFT

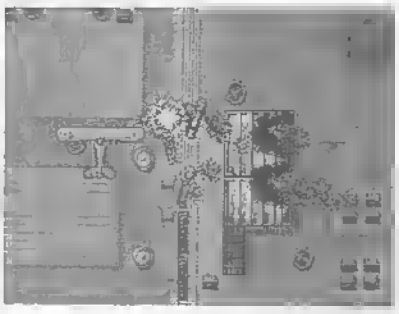
WINGS

Feel the wind in your face, hear the purr of your spitfire engine ... experience all the thrills of a World War I flying ace as* PHIL CAMPBELL *reports on the ultimate game ...

Pilot's Log, May 8th 1916: "The line at Verdun is tightening. Observation balloons are cluttering the skies at Nomeny and providing the enemy with too much information on our aerodrome at Luneville, so this evening a couple of us are going over to Nomeny for a little balloon busting party. Always willing to help our friends." My motor sputters to life as the sun sinks below the western horizon. The time has come. Another mission. Another flight that could be my last. I put the thought out of my mind as the fragile frame of my bi-plane lifts from the runway. In moments I'm airborne, and heading towards the German Observation balloons that are dotted along the horizon.

Without warning, a bright red Fokker drops into view, peppering me with machine gun fire. I bank sharply and swing around to fix him in my sights - a short burst on the trigger sends him scurrying for cover. By now, the observation balloons are in range. Steady hand, keen eye - and the dirigible bursts into a ball of flame. Another successful mission for Waldo P. Barnstormer, hero of the 56th Aerosquadron.

Barnstormer has the starring role in *Wings*, an amazing new Amiga game from Cinemaware. Best known for their series of "interactive movies" - games that put you in the lead role of a simulated movie as it unfolds around you - Cinemaware have diversified into bigger and better things. And boy, have they done it well!



Wings has a much higher action quotient than previous "interactive movies" - more thrills and less strategy. To my mind, they've struck the perfect balance, making *Wings* one of the top games of the year. In total there are 230 authentic missions, including strafing runs, dogfights and bombing raids - classic "Red Baron" material that will have you twisting and turning in your seat as you try to drill your opponents full of holes. After several hours play - and a little cheating - I'm still only up to mission 19, so there's plenty of action crammed onto the two disk set.

Between missions, you'll get a genuine feel for airforce life. You'll meet the fiery Captain Farrar - if you fly like me, he'll dress you down regularly. Quite unreasonable, really - after all, I've only ditched five planes. A leather bound journal automatically records your wartime experiences, and captures the ambience of the era perfectly. Minor sub-plots and mundane details of life on the front line are woven together in a way that really brings the game to life.

Graphics are excellent. The clever mix of filled-vector and bit map styles gives an unequalled sense of realism. The screen displays a view from directly behind the pilot, with the upper wing of your bi-plane spanning the top of the screen. Between the struts you have a clear view of the action, including enemy planes and the pleasant rural landscape below. As you bank and turn, the scenery spins past at an alarming rate. The effect is so convincing that you may need to keep an air-sickness bag on hand beside your computer.

As you'd expect, there are no high-tech frills in your cockpit. In fact, there's no instrumentation at all. You'll soon discover exactly what it means to fly by the seat of your pants. The sound of your engine provides essential cues - bank or climb too steeply and you'll hear it sputter and cut out. With luck, it will restart as you nose-dive towards the wheat fields below. But maybe not.

Wings is a brilliant game. It's got atmosphere, it's got action, and it's got loads of style. Although the retail price of $79.95 is certainly not cheap, I'm happy to recommend it as top value for your gaming dollar. ❑

★ ★ ★ ★ ★

Ratings:

Graphics:	95%
Sound:	91%
Gameplay:	93%
Overall:	**93%**

★ ★ ★ ★ ★

Distributed by:

(02) 662 7944

RRP: Amiga $79.95

CINEMAWARE

Terran Envoy

Here's an Aussie game that's making it on the world market. Good stuff! And not a bad game either ...

Home grown computer games are as rare as hen's teeth. A quick glance at the latest releases piled on my desk tells the story. There's *Operation Stealth*, programmed by Paul Cuisset and Philippe Chastel for Delphine Software in France. There's *Street Rod*, from Andrez Sanoja at California Dreams in San Jose. And *Shadow of the Beast II* comes from Psygnosis, based in Liverpool - no, not Liverpool 2170, NSW. Liverpool, L3 3AB, UK. In a word, Aussie games have a very low profile.

This may soon change. And *Terran Envoy* may be just the game to change it. *Terran Envoy* was developed in Australia by Ben Freasier, Tony Oliver, Barry Price and Mick Neinham. The group forms part of Stratagem Software. Based in Canberra, Stratagem brings new meaning to the word "diverse." Established in 1985, the company now employs more than sixty staff on projects ranging from systems development for major government departments to games development for budding space cadets.

Terran Envoy, their first release, is best described as a strategy game - a game that relies more on a good head than a fast hand. Programmer Tony Oliver claims that the game will have wide appeal, though it is targeted at a niche market. "*Terran Envoy* will appeal to professionals like ourselves," says Oliver - "there's a logical challenge, and a satisfying game takes only about an hour." Thats not a bad pitch. Most strategy games take days to master - fine if you've got nothing better to do, but a bit tricky if you're hoping to sneak a quick game at the office.

To play *Terran Envoy* effectively you need to be something of a diplomat and a detective. You are earth's envoy to the Galactic Sector Council, the Ubbermenscha, and you have a sneaking suspicion that all is not well. Rumours are circulating that there's a traitor on the council, a usurper whose sole aim is to take control of the galaxy. But who is it? Naturally, the Ubbermenscha is made up of creatures from all over the universe. Most of them are incredibly ugly, though you can rest assured they feel the same way about you - so don't jump to any conclusions.

You'll need to learn as much as you can about your fellow councillors before you can flush out the culprit. Check up on their psychological makeup, and find out who their friends and enemies are on the council before you go asking too many questions.

Most council members need a little encouragement before they'll speak. Not bribes, of course, but as you'll realise, advanced telepathic species are fascinated by rare crystals. Some crystals can even amplify positive psionic responses, which gives the guys a real good feeling - boy, this new age stuff has spread further than I thought! Naturally, you'll need to know what sort of crystals excite each alien, and then you'll need to set out on a mining expedition to build up your stocks.

Your ARAC, or "personal computer" displays pictures of your alien colleagues, planetary systems and crystals. Subscreens display streams of useful data. The machine automatically stores all the information you gather, so all you need to do is sort it out, put it together and zap the culprit with the Ray of Justice. Easy. If you're a genius.

The Amiga version of *Terran Envoy* is a little disappointing. Development was carried out simultaneously on the PC and Amiga versions - Amiga supplied the graphics, PC produced the gameplay. And unfortunately, it shows.

Terran Envoy is heading for the world market. And that's good news for us all. Don't buy a copy if you're looking for "state of the art" graphics and sound effects. Because they're not. But if you want to stretch your brain for an hour or two and encourage the Australian software industry, it's well worth a look. ❑

Phil Campbell

Distributed by: Mindscape / Stratagem

(02) 899 2277

Mindscape

RRP: Amiga $49.95

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Adventurer's Realm

by Michael Spiteri

Welcome, friends, to the realm of adventuring, better known as Adventurers Realm. Send in your problems and if I cannot help you I'll print it among these pages in the hope someone else can. If it's general help you are after then we have a number of hint sheets available for most popular games to help you plug through.

Don't forget to send in your hint and tips, and even your views would not go astray. The address to write to for adventure and war-game queries is:

Adventurers Realm, P.O.Box 351, Pakenham, Vic 3810

The Dungeon is where Kamikaze Andy lives, and he can offer help (but not hint sheets!) on most role-playing games - if you enclose a stamped addressed envelope. His address is:

The Dungeon, P.O.Box 315, Maddington, WA 6109

Free Hint Sheets

Just send a stamped addressed envelope to:
Free Hint Sheets, P.O.Box 351, Pakenham, Vic 3810, and select up to four hint sheets from the list below, and I'll make sure you receive them a.s.a.p at no extra cost to you!!
..Or you could wait until next month, when the list below would have grown!!!
Bard Tale 1,2,3 Zork 1,2,3 Hitchikers Guide, Faery Tale, Dracula, Castle of Terror, Adventurerland, The Pawn, Borrowed Time, Fish, NeverEndingStory, ZZZZZZzzzzz, Deja Vu, Pirate Adventure.
(Note: The Pirate Adventure hint sheet is for the famous Scott Adams adventure game, not the recently released rpg).
*In the works: **An Official Adventurers Realm Hint Book** , watch this space!!*

Adventure News

Karen Kelty of Questor tells me that there are hundreds of titles to be released over the next two months. A couple to look out for is *Gremlins II*, and also *Viking Child*, a hot new game from Electronic Zoo. PC owners, *Space Ace* is coming your way! A hopeful future release is *Legend of Faerghail*, a new rpg from Reline Software (distributed by Computermate) that hopes to grab a slice of the *Bards Tale* series market.

problems, problems & more problems

The following adventurers are stuck up to their neck deep in adventure problems, riddles and parmucles. If you can help them out, please do, by writing with your help to The Realm.

First up on the gallows is clever contact Turrican, who wants to know whether he should give the soap-on-a-rope to Cherri Tart. If he does, what does he use for the shower?

Then we have Peter Rickard of Farrer in ACT who is stuck desperately in *Future Wars*. Um, he wants to know how to get past ... a photocopier!! He has in his inventory a sheaf of paper, insecticide, plastic bag, and the key. All the combinations of paper red button and green button result in setting off the alarm! What is he doing wrong?

Michael Rowe of Nakara (somewhere near Darwin) in the Northern Territory is stuck in *Phantasie III - The Wrath of Nikademus* (C64). Could somebody please advise Mike how to proceed to the plane of darkness. He is able to get to the giant crystal castle and obtain the key to light and darkness.

Adrian Smythe of Auburn in NSW is stuck in the two latest *Leisure Suit Larry* games. In number 2, he is on the cruise ship and doesn't know what to do! Then in number 3, is there an easy way of getting through the jungle?

Vicky Cooke is stuck at the Goblin's Castle in *Labyrinth*. Also, in *Atlantis*, how do you kill the Black Manta?

Mick Gooch is stuck in *Time*. He has done everything but seen Confucious and needs the 5th time machine to become active.

Shawn Malligan requires help in *Arthur Quest:*

1) How do you challenge King Lot?
2) What do you do with the little thorn branch which fell in Thorney Island?
3) How do you wake the Lady of Lake?
4) How do you get Excalibur from the sunken boat?

Finally, Stuart Ferguson wants to know the exact name you have to give to the coach driver in *Dracula* (Pt 1). Some vampire out there must know the answer to this one.

Clever Contacts

Two more clever contacts to write to for specific hints on games

- always enclose a stamped addressed envelope when writing to a clever contact. Watch out for a full list of clever contacts in next month's Adventurers Realm.

Turrican of 20 Braden Way, Marmion, W.A 6020 (or even by fax c/o Rod Strika (09)3167622) is willing to offer help in *Leisure Suit Larry 1 & 2, Indiana Jones & the Last Crusade, Police Quest*, and *Treasure Island Dizzy*.

Juris Graney, of 41 Cameron St, Maclean, NSW 2463 can offer help on numerous Amiga and C64 strategy and arcade adventure games.

The Dungeon by Kamikaze Andy

Rejoice all ye Amiga owners, for *Bards Tale III* will finally appear on our wonderful machines in the next few months. It certainly took Electronic Arts long enough to come up with the conversion. Hopefully, another of EA's hit RPGs *Wasteland* will debut on the Amiga soon.

Speaking of *Wasteland*, Electronic Arts has another new RPG coming, this time for both Amiga and C64. *Fountain of Dreams* will bear a very similar resemblance to *Wasteland*, especially in interface. Look out for this in the coming months. *Dragonstrike*, SSI's AD&D version of a dragon flight simulator with RPG quests to complete is out now for the Amiga. There is also the chance of a C64 version too!

The biggest news for C64 owner this month is the imminent release of *Ultima VI* by Origin. This latest sojourn into Lord British's land of Britannia, however, will not feature the spectacular graphics of the IBM version, and it is very likely that this will be the last Ultima to be converted to the C64. According to Origin, the need for more memory and graphic capabilities will not allow future games on the C64. Amiga owners will have the pleasure of superb graphics and sound, but not until the middle of next year.

SSI have brought out a couple of sci-fi RPGs for both the Amiga and C64. Watch out for *Renegade Legions: Interceptor*, based on the popular FASA game, and also *Buck Rogers: Countdown to Doomsday*.

Another notable release is *Corporation*, a futuristic Dungeon Master clone which supposedly has many more features. Another release is *Dragonflight*, from Germany, with great looking graphics.

Commodore's big news, which is the release of the Amiga CDTV CD-ROM games machine next month, has already prompted a few adventure and RPG companies to design some games using the storage capacities of CDs.

From Lucasfilm comes a new design of *Loom*. Origin, Sierra and FTL, as well as many more, are making the conversion to CDTV. Be prepared for *Ultima VII* on CDTV late next year, and even *Kings Quest V*.

HELP WANTED

Andrew Strika needs help with *Ghostbusters 2*. Anyone got some advice?

Ainsley Travers has written for the second time looking for help with *Elite* on the C64. Any pokes or cheats would be appreciated. Ainsley would also like some help with *Last Ninja II* - how do you turn off the fan? If you can help, send in your tips, or write direct to Ainsley Travers, 49 Parap Rd, Parap NT 0820.

Neville Clarke of 51 Festing St Albany WA 6330 is looking for a cheat/ poke for *Rocket Ranger*, or even some helpful tips.

Help, Help and More Help

Many thanks to the many adventurers who helped out troubled adventurers, I am sure your assistance is greatly appreciated. Send your hints and tips to Phil at PO Box 23 Maclean NSW 2463, or fax 'em in on 066 452060.

Game: Hound of Shadow
For: Paul Valentine **From:** Noel McAskill
Help: To get the book in the British Museum, enter 'get name of book' after your friend asks you to get that book from Open Access.

Game: Tass Times in Tonetown
For: Natalie Paine **From:** Noel McAskill
Help: The editor's name is NUYU. Use

the terminal by typing:
turn on printer, turn on terminal, type your name. The silver painted jar is empty and is used to collect devils.

Game: Temple Curse
For: Ben Del Fabbro From: Vicky Cooke and Peter Nuzum
Help: From the jungle clearing, remove leaves, get stick, go south, hit latch, climb steps, get rock, hit padlock, open door, go door. This will bring you to the Great hall.

Game: Island of Spies
For: Craig Power From: Vicky Cooke and Peter Nuzum
Help: Untie the parachute, remove parachute, crawl out, hide parachute.

Game: The Temple Curse
For: Scott Robinson From: Peter Nuzum
Help: The translator is used to read the sign in the sacred

Game: Savage Island Pt 1
For: Scott Pitcher From: David Clark
Help: The way you get all the objects out of the lake without drowning is to use the log. You leave it floating on the top, swim down and get everything. Then swim up and hold onto the log.

Game: Leisure Suit Larry III
For: Luther Teng From: Turrican
Help: First follow Chris Kaiser's directions (August issue) but before you go into the forest, look in the mailbox on the driveway at your home. Take the credit card, find the beach and give the credit card to the girl there.

Game: Indiana Jones and the Last Crusade
For: Spaceflight From: Turrican
Help: First to open the chest, go to the bookcase near the bedroom and pull it down. You should find a small piece of tape on the back of it. Take the tape and return to the college. Climb back into your room and find the jar of solvent. Open it and use tape in jar of solvent. You should now have a key to open the chest. Second, in Venice, you cannot go straight through the grate to the crypt, you must go around.

General Hints

by Michael O'Sullivan

Game: Drakkhen - The ninth tear is the combination of the other eight tears. The tears are the gems found in the foreheads of the higher lords of the Drakhen priesthood. To gain entry into the first castle with the shark in the moat, wait until the shark just appears on the right hand side of the drawbridge then send one of the two centre characters across by clicking on the door. If you are low on energy, walk up to a building and when you change to character mode automatically, you may rest by not touching the computer. Nothing can harm you. Save the game before entering the pub, and when finished inside, reload the save so that you get all your money back. Talk to Drakh in the first castle (he is in the bedroom). Don't touch the crosses on the hand.

Realm Chit-Chat

Mick Gooch of Lowood in Queensland suggests that Sue Martin who had problems recruiting soldiers in *Romance of the Three Kingdoms* should go out and purchase an original copy of the game. Apparently, a not-so-original version of the game has the soldier's option disabled!

David Clark of Fish in ACT wants to know if the Scott Adams series is available on the Amiga. Public domain clubs might have the range available, though I don't think any of the major suppliers have released these classic series of text adventure games. They are however, available on the C64 and PC's.

Michael O'Sullivan of Dickson in ACT has discovered a way of cheating in the strategy game *Super Cars*. Typing in one of the following names gets you to different levels. RICH gives you 500,000 pounds to start off with, ODIE starts you on level two, and BIGG starts you on the suicide level - three.

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